Back Bay Observer

The Official Newsletter of the Back Bay Amateur Astronomers

P.O. Box 9877, Virginia Beach, VA 23450-9877

EPHEMERALS MARCH 2009

DATE	WHEN	WHAT & WHERE
9	6:30p	SCIENCE NIGHT @ Deep Creek Elementary, Chesapeake
5	7:30p	Monthly Meeting @ TCC in VB
6	7:00p	GARDENSTARS @ Norfolk Botanical Gardens
20	Dusk	Skywatch @ NWRP Equestrian Area
28	Dusk	Nightwatch @ Chippokes Plantation

CONTENTS

Looking Up!

Comet Lulin rules! It appears there are many in the club that have both partaken and shared views of this glowing apparition in Leo. It certainly was a hit at the February SkyWatch at NWRP. As I write this at months end, Lulin and Saturn are making quite a pair in Leo (and before midnight to boot)! How rare. Those hardy souls that have braved the cold early AM temperatures for a glimpse under clear skies should get awards for endurance.

ECSP in May is beginning to sound better and better to these old bones. Kent, start mowing.

I wish to thank Prof. Kenny Broun for the great planetarium show at our February meeting and member Paul Carmody and Kenny for sharing their experiences observing thru Paul's new 14.5 inch JMI binocular telescope. All I can say is please come to ECSP so we can see those galaxies and Markarian's chain in Virgo with two eyes.....WOW!

The spring public outreach schedule was discussed at length at our February meeting. It is extensive and growing and will be reviewed and updated again at March's meeting. If the public's presence at February's SkyWatch was an example of what's to come with the IYA, then we will need a continued outpouring of member support for these activities. The more club members the merrier, so to speak. Some members are 100% in their attendance at these activities, others of us less so (me included), due to work and family obligations. But as the activities crescendo this spring with the 1st Annual Mount Trashmore Star Party and our own Astronomy Festival at NWRP, we need everyone. If not for the day then for a few hours. Bring yourselves, your scopes, a chair, and a bottle of Advil if you must, but come and enjoy all that your club and the spirit of the IYA can offer. See you there!

Bruce "Doc" Bodner

FEBRUARY'S Meeting Minutes

Members in Attendance:

There were 27 members in attendance at the February meeting of the Back Bay Amateur Astronomers held in the planetarium of Tidewater Community College in Virginia Beach.

Bruce Bodner, Jordan Bramble, Kenny Broun, Paul Carmody, Gerry Carver, Hannah Chacon, Lisa Chacon, Ted Forte, Mike Galvas, Jay Garrard, Mark Gerlach, Hunter Hughes, Georgie June, Ben Loyola, Matt McLaughlin, Jim Miller, John Norman & Sandra Norman (New Members), Bill Powers, Mike Pryztula, George Reynolds, Rob Schonk, Kevin Swann, Matt Swingle, Bird Taylor, Larry Wade and Kevin Weiner.

Treasurer's Report:

None, not in attendance.

Secretary's Report:

No report.

RRRT:

Nothing much to report. The schedule and details for the RRRT month long testing are still pending.Ted is soliciting club volunteers to "Man The Scope" during the test period.

ALCOR:

No report.

Old Business:

None.

New Business, Announcements and Observing Reports:

Two new club members joined our midst at the February meeting. A hearty welcome goes out to John Norman and Sandra Norman. Welcome to the club!!! We are glad to have you! We enjoyed hearing about your vacation to Hawaii.

Rob Schonk would like to see if the club has an interest in using or leasing rights to a new dark sky location for club use. The site is on Hunt club land on the peninsula. Rob mentioned that this area shows up yellow on the clear sky clock. Rob asked the club officers to pursue this.

Bruce discussed the upcoming International Year Of Astronomy schedule of events, with a particular emphasis on the busy month of April. See the detailed calendar of club events below.

Paul Carmody and Kenny Broun shared their experiences observing thru Paul's new 14.5 innch JMI binocular telescope. He plans on debuting it for the club at SkyWatch.

Kevin Weiner asked for club support for the Men's retreat at Camp Silver Beach. The event is Friday, March 27th. BBAA has done this event in the past. We do a presentation to 100-150 people, then have scopes set up afterward. Contact Kevin Weiner for details if you wish to help with the presentation or participation at the event itself. Doing both is highly encouraged also.

The following is a busy calendar of club events thru May 2009:

3/5	BBAA Monthly Meeting @ TCC Virginia Beach
3/6	GardenStars @ Norfolk Botnical Gardens
3/20	Skywatch @ Northwest River Park
3/27	Men's Retreat Presentation @ Camp Silver Beach
3/28	NightWatch @ Chippokes State Park
4/1	Worlds Connect @ Bayside Library, Va Beach
4/2	BBAA Monthly Meeting @ TCC Virginia Beach
4/3	GardenStars @ Norfolk Botanical Gardens
4/3	100 Hours Of Astronomy @ Mount Trashmore, VB
4/4	Chesapeake Library Astro Day @ Chesapeake Library
4/4	Yuri's Night @ Hampton Air & Space Museum
4/6	Science Fair @ Arrowhead Elementary School
4/12	Yuri's Night @ Hampton Air & Space Museum
4/17	Va Beach SPCA presentation @ VB SPCA
4/17	Skywatch @ Northwest River Park
4/25	Nightwatch @ Chippokes State Park
5/1	GardenStars @ Norfolk Botanical Gardens
5/2	Astronomy Day @ Va Beach Central Library
5/7	BBAA Monthly Meeting @ TCC Virginia Beach
5/15	Skywatch @ Northwest River Park
5/15	Cub Scout event (No firm Date Yet)
5/16	Cub Scout event @ N. Landing Beach Campground
5/17	Cub Scout event (No firm Date Yet)
5/16	Celebrate Astronomy Festival @ Northwest River Park
5/23	NightWatch @ Chippokes State Park
5/29	Night Hike @ Northwest River Park

Main Presentation:

Kenny Broun WOW'd us with another awesome planetarium show. The title of the show was "New Horizons".

Once the planetarium presentation was completed; the meeting was adjourned at 8:53 PM, Thursday, February 5, 2009.

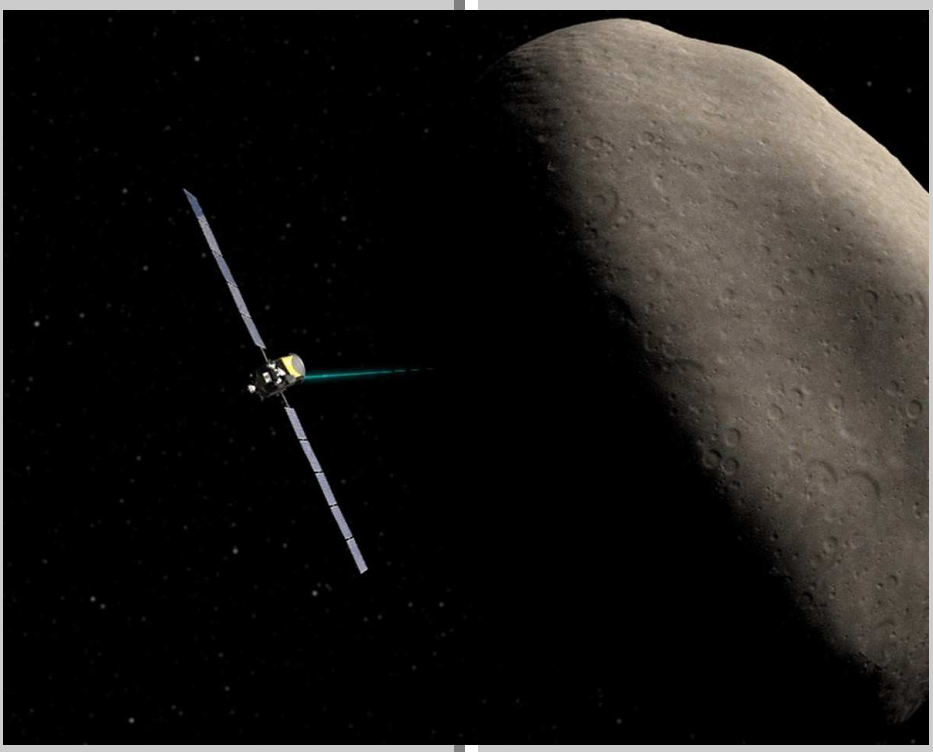
Matt McLaughlin
BBAA Secretary

NASA's Space Place

Where did all these gadgets come from?!

by *Jet Propulsion Laboratory, California Institute of Technology*

Ion propulsion. Artificial intelligence. Hyper-spectral imagers. It sounds like science fiction, but all these technologies are now flying around the solar system on real-life NASA missions.



How did they get there? Answer: the New Millennium Program (NMP). NMP is a special NASA program that flight tests wild and far-out technologies. And if they pass the test, they can be used on real space missions.

The list of probes that have benefited from technologies incubated by NMP reads like the Who's Who of cutting-edge space exploration: Spirit and Opportunity (the phenomenally successful rovers exploring Mars), the Spitzer Space Telescope, the New Horizons mission to Pluto, the Dawn asteroid-exploration mission, the comet-smashing probe Deep Impact, and others. Some missions were merely enhanced by NMP technologies; others would have been impossible without them.

"In order to assess the impact of NMP technologies, NASA has developed a scorecard to keep track of all the places our technologies are being used," says New Millennium Program manager Christopher Stevens of the Jet Propulsion Laboratory.

For example, ion propulsion technology flight-tested on the NMP mission Deep Space 1, launched in October 1998, is now flying aboard the Dawn mission. Dawn will be the first probe to orbit an asteroid (Vesta) and then travel to and orbit a dwarf planet (Ceres). The highly efficient ion engine is vital to the success of the 3 billion mile, 8 year journey. The mission could not have been flown using conventional chemical propulsion; launching the enormous amount of fuel required would have broken the project's budget. "Ion propulsion was the only practical way," says Stevens.

In total, 10 technologies tested by Deep Space 1 have been adopted by more than 20 robotic probes. One, the Small Deep Space Transponder, has become the standard system for Earth communications for all deep-space missions.

And Deep Space 1 is just one of NMP's missions. About a half-dozen others have flown or will fly, and their advanced technologies are only beginning to be adopted. That's because it takes years to design probes that use these technologies, but Stevens says experience shows that "if you validate experimental technologies in space, and reduce the risk of using them, missions will pick them up."

Stevens knew many of these technologies when they were just a glimmer in an engineer's eye. Now they're "all grown up" and flying around the solar system. It's enough to make a program manager proud!

The results of all NMP's technology validations are online and the list is impressive: nmp.nasa.gov/TECHNOLOGY/scorecard/scorecard_results.cfm. For kids, the rhyming storybook, "Professor Starr's Dream Trip: Or, How a Little Technology Goes a Long Way" at spaceplace.nasa.gov/en/kids/nmp/starr gives a scientist's perspective on the technology that makes possible the Dawn mission.

Image Caption:

Dawn will be the first spacecraft to establish orbits around two separate target bodies during its mission—thanks to ion propulsion validated by Deep Space 1.

BBAA INFO

The BBAA meet the first Thursday of every month. While school is in session we meet at the VA Beach TCC campus.

The March meeting will be on Thursday March 5th at 7:30 PM at the Tidewater Community College Campus in Virginia Beach.

WHERE IS THE MEETING?

TIDEWATER COMMUNITY COLLEGE CAMPUS

The TCC Campus is located in Virginia Beach off of Princess Anne road. The following should help you locate the campus.

FROM Interstate I-64:

Proceed to the I64 / I264 junction and take I264 East .
Take the S. Independence Exit, 17A, right hand lane and proceed (.000000040879639 AU) (3.8 mi).
Turn LEFT onto Princess Anne road and proceed (.000000011833579 AU) (1.1 mi).
Turn LEFT onto Concert Drive and proceed (.000000001426233 AU) (700').
Turn LEFT and then turn RIGHT on University Drive go (.000000002151559 AU) (0.2mi).
Proceed to College Crescent and then park in one of the lots in front of the Advanced Technology Center.

The Science Building is immediately south of the ATC building. Walk toward the ATC entrance, but bear left, the Science building is straight ahead. Find the rounded part, this is the Planetarium. Locate the stairs nearest the planetarium and upstairs you will find classroom JC12 on the next floor.

COX COMMUNICATIONS CAMPUS

The COX Communications Campus is located in Chesapeake's Greenbrier section. The following should help you locate the facility.

FROM Interstate I-64:

Take exit 289B (between the Indian River & Battlefield exits).
South on Greenbrier Parkway (.7382 miles).
Turn RIGHT onto Eden Way West (.9231 miles).
Turn RIGHT on Crossways Blvd (.88901 miles).
Turn Right into the Cox Campus

The meeting is usually held in the Silver room located on the North side of the facility. Enter and tell the guard that you are with the BBAA and they will issue a badge and direct you to the room.

BBAA INTERNET LINKS

BBAA WEB SITE
http://www.backbayastro.org

YAHOO GROUP
http://groups.yahoo.com/group/backbayastro

BBAA OBSERVER NEWSLETTER
http://www.backbayastro.org/newsletters/newsletter.shtml

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What do you want to do?

OBSERVER INFO

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

Please submit articles and items of interest no later than the 15th of March for the April issue. Please submit all items to:

ObserverBBAA@cox.net / chuck@jagowds.com

OR

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APERTURE FEVER?

Editors Note:
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Chuck Jagow

Provided by By C. C. Petersen,
The Spacewriter's Ramblings

Sometimes astronomers come down with a peculiar condition called Aperture Fever. In short, no matter what size their telescope mirror is, they always want a bigger one. But, there's a limit to the size of mirror (or radio dish) you can build and still have it be useful. You could probably pour a piece of glass 100 meters across, if you wanted to. You could build a huge radio dish, if you wanted to. But, getting a big piece of glass or a monstrous dish on a support and keeping them from breaking under the pull of gravity (or at the very least, keeping them from distorting and bending due to gravity's tug on it) would render them useless.

Light collected by three VLT Auxiliary Telescopes, and combined using the technique of interferometry, provides astronomers with vision as sharp as that from a giant telescope with a diameter equal to the largest separation between the telescopes used. To obtain the image of T Leporis using data from the Very Large Telescope Interferometer, astronomers used the four 1.8-metre Auxiliary Telescopes in different configurations to mimic a telescope almost 100 metres in diameter, as

There are some cures for aperture fever, however. The latest was demonstrated in Chile by a group of French astronomers who ganged together all the telescopes at the European Southern Observatory.

Essentially, what the astronomers did was create a 100-meter-wide interferometer - a sort of "virtual" telescope consisting of several smaller (1.8-meter) VLT Auxiliary telescopes. The result was an aperture the size of a much larger telescope. They made several observing runs with this special set-up to collect the light streaming from their target, and then combined that light into one very fine image.

What makes this use doubly cool is that they used it to create one of the first infrared interferometry observations. That's quite a feat.

Their target was the star T Leporis, a type of pulsating star called a Mira variable (named after the star Mira, which is the "prototype" for these kinds of stars).

Mira stars are among the biggest factories of molecules and dust in the universe. T Leporis is a fine example of this activity. It pulsates with a period of 380 days and loses the equivalent of the Earth's mass in dust and gas every year. Since the molecules and dust get created in the layers of atmosphere surrounding the central star, astronomers would like to be able to look at these layers in great detail to see how it all happens. But this is no easy task, given that the stars themselves are so far away. Even though we're talking about a huge star, from a distance of 500 light-years T Leporis appears quite small - about half a millionth of the size of the Sun. This is where interferometry and repeated observing runs can make a huge difference.

The reconstructed image shows this star up-close. It's 100 times larger than the Sun, and is surrounded by a sphere of gas about three times larger than the star itself. That we can even see this level of detail in a star that lies 500 light-years away shows that aperture fever can be slaked with a virtual telescope and the right amount of observing time.

OBSERVER'S CORNER

February 2009 - Well, my 90mm Mak arrived (finally) on Friday the 13th. I was hoping it would come before I had to leave for Skywatch, and FedEx showed up exactly one hour before I had to leave. At 5pm I was unpacking the box from Orion, and a little over an hour later was setting the scope up for first light at Skywatch, at Northwest River Park in Chesapeake.

I had ordered the Orion Apex 90 off their Clearance page, and saved $35 over the regular price. Of course, I turned right around and spent that "saved" money on two additional eyepieces, a 12.5mm and a 7.5mm Plossl.

Since it is a little scope, only a few clouds came out of the box. We had mostly clear skies, with some fleeting, hazy clouds now and then. After I got the finder and OTA aligned, I found a few targets, like the Orion Nebula, Sigma Orionis, and bright crescent Venus. I am happy with the little scope's quality, as well as its small size. It is half as big as my current travel scope, the Orion ShortTube 80, but with its long 1250mm focal length and f/13.9 focal ratio, it shows more detail and bears more magnification than the ST80.

Shortly after 9:30, Leo was rising above treetops to the southeast, so I scoped out Saturn. As always, Saturn made a satisfying picture in the eyepiece. I clearly saw its largest moon Titan to the west of the planet. I showed Mizar and Alcor (and Mizar's tiny companion) to several visitors at Skywatch, and showed them a few more sights in my new scope. I tried to see the Andromeda Galaxy, and had it for a few seconds in my 15x70 binoculars, but the hazy clouds soon covered that part of the sky and I could not get it in the telescope.

All in all, it was a successful night, and a good "first light" experience. This scope will be a neat little package to take on my flight to Texas.

George Reynolds

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Skywatch February 2009 - Fourteen members were present Mark Ost (4" Refractor), Rick Bish (10" Dob), Jordan Bramble (10" dob), Georgie June, Bill McClean (10" Dob) , Matt McLaughlin (4.5" Dob), Chuck Jagow (16" Dob), Gerry Carver (90mm refractor), George Reynolds (90mm Mak), Kent Blackwell (10" Dob), Hunter Hughes (8" Nextstar), Kenny Broun, Ted Forte (18" Dob), and associate member John Crowder.

Visitor Paul Carmody brought his 14.5 inch JMI twin telescope binoculars and the Goeb family (Sam, his dad Larry and sister Charlotte) brought Sam's new Celestron Nexstar 8, for a total of thirteen telescopes.

We got the names of 38 visitors. (Thanks Georgie – great job!!) Seven (18%) of them reported never having looked through a telescope before! That's a total of 52 people counted which means we may have had close to 60 if you assume 10% slipped through the cracks.

Congratulations are in order for John Crowder; he completed his BSA astronomy merit badge last night. John has spent a few months working toward that goal and last night was his second Skywatch in a row. Way to go John!

I am disappointed that I never got to see George's new Mak, or the giant JMI bino's, but I was swamped from the moment I put the first eyepiece in the scope until almost pack-up time. (Which is just how I like it by the way). I had a great time and didn't even realize I wasn't wearing a, hat, or gloves or even a coat over my thermal coveralls until Chuck reported the temperature (33F) as he was leaving. I was having too much fun to notice I was cold!

Best views? Thor's Helmet, Comet 144P Kushida (in Taurus) and 29P Schwassman Wachmann (aka shwarshy washerwoman) in Gemini. And the best view ever of the Witch's Broom, right Jordan?

Thanks to all who showed up and a special thanks to Kenny – 16 of our guests were students of his, and most of them brought friends or family!

Ted Forte

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February 2009 - Kent, Stan, and I spent a nice evening under 10 for 10 transparent skies. This is the second night of excellent observing, if cold. Why can't we get a weekend with no clouds?

Comets were the order of the day with Kushida getting larger by the day. Coming in around 8th or 9th magnitude it was well situated along a line of stars. Kent started speaking like O'Meara describing the comet as a dragon's head. This was slightly disturbing and even Kent caught himself.Comet Broughten is well positioned high in the sky around Auriga. Neither has much structure that I could see but Broughten is much more condensed, a little fireball. No tail was seen with either comet. These are evening comets.

The best comet is hands down Lulin, an early morning comet in Libra. Got up at 0415 and found it was easily placed for observing in the pre dawn skies in the east above Scorpius. Just around 7th magnitude or maybe a marginal 6, Lulin is very bright with an extended coma and intense pseudo nucleus. This may become the best comet of the year and it is worth getting up for if you have an eastern horizon. Closest approach is mid February observable around midnight. Observed the comet in 25x100 binoculars and at 55x in the 4 inch. The moon phase was ideal, a thin golden sliver low on the horizon at 0530. It was almost the color of an eclipse with a fine earth shine. A nice good morning observation prior to going in the house.

Quick views of M13 and M3 to test out the ethos on big globulars. Nice, very nice.

Mark Ost

BOOK REVIEW

Every now and then, read rarely, do I find a book worth recommending as required reading.

Some may remember a recent article in *S&T* that concerned Project Moonwatch back in 1957. The author of that article has produced a most insightful and interesting book on a forgotten chapter of the early space age and a lost era of innocence in American history.

For three years following the Soviet launch of the first satellite, Sputnik, American amateur scientists and astronomers had a chance to contribute in a meaningful way to a national effort of watching the skies to track satellites. Many names familiar to us now, and I won't spoil the surprise, started sky watching careers with Project Moonwatch.

Keep Watching the Skies,the title of the book, was taken from the last lines of the 1950's science fiction classic *The Thing*. This book is required reading for anyone interested in the roots of modern amateur astronomy and the culture that fostered a generation's interest in the night sky. It has been said that three events enabled the resurgence of modern astronomy: the dobsonian telescope, the CCD camera and the Internet. But this approach is simplistic and does not take into consideration the culture and history of the cold war that was the genesis of many people's interest in science. ***Keep Watching the Skies*** brings first rate research and an accessible writing style to its subject. I read the book cover to cover in two sittings and was sorry when it was over. I was just 4 years old when Moonwatch was started but I can recall a time when scientists were looked up to and the United States for a brief period believed that science would lead the way to a brave new world. Those dreams ended in the early sixties along with American innocence and naiveté. ***Keep Watching the Skies*** provides a window into that passing golden age of amateur astronomy. If you have an interest in how we got where we are today, this is the book for you. Run, don't walk to Amazon to get a copy.

Mark Ost

BBAA UPCOMING EVENTS

DATE	TIME	EVENT
3/5/2009	7:30P	BBAA MONTHLY MEETING
3/6/2009	6:00P	GARDENSTARS @ NORFOLK BOTANICAL GARDENS
3/9/2009	6:30P	SCIENCE NIGHT @ CREEK ELEMENTARY SCHOOL, CHESAPEAKE
3/20/2009	DUSK	SKYWATCH @ NWRP
3/28/2009	DUSK	NIGHTWATCH @ CHIPPOKES STATE PARK
4/1/2009	7:00P	WORLDS CONNECT @ BAYSIDE LIBRARY
4/2/2009	7:30P	BBAA MONTHLY MEETING
4/3/2009		GARDENSTARS @ NORFOLK BOTANICAL GARDENS
4/3/2009	DUSK	100 HOURS OF ASTRONOMY @ MT. TRASHMORE
4/4/2009	10:00A	CHESAPEAKE LIBRARY ASTRONOMY DAY @ CHESAPEAKE LIBRARY
4/6/2009	6:00P	SCIENCE FAIR @ ARROWHEAD ELEMENTARY SCHOOL, VB
4/17/2009	1:00P	STARS FOR SPCA @ VB SPCA
4/17/2009	DUSK	SKYWATCH @ NWRP
4/23 - 4/26	---	DELMARVA STARGAZE @ TUCKAHOE
4/25/2009	DUSK	NIGHTWATCH @ CHIPPOKES STATE PARK

MARCH 2009

BBAA EVENTS	SPECIAL OUTREACH	ASTRONOMICAL EVENTS
05 = BBAA Monthly Meeting @ COX Chesapeake Campus, Chesapeake, VA , 7:30 PM		**04** = FIRST QUARTER
06 = GARDENSTARS @ Norfolk Botanical Gardens 7:00 PM - POC Matt McLaughlin		
	09 = SCIENCE NIGHT, 6:30 PM @ Deep Creek Elementary, Chesapeake, POC: Chuck Jagow - Outdoors telescope presentation.	**10** = FULL MOON
20= SKYWATCH @ NWRP, Dusk		**18** = LAST QUARTER
28 = NIGHTWATCH @ Chippokes State Park, Dusk		**26** = NEW MOON