Back Bay Observer

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

EPHEMERALS FEBRUARY 2008

DATE	WHEN	WHAT & WHERE
1	Dusk	Skywatch @ NWRP Equestrian Area
7	7:30p	BBAA Meeting @ TCC in Virginia Beach
9	Dusk	Nightwatch @ Chippokes Plantation
16	7:00p	GardenStars @ Norfolk Botanical Gardens
20	7:30p	Lunar Eclipse @ Chesapeake Planetarium
26	6:00p	Science Night @ Green Run Elementary
2/29	Dusk	Skywatch @ NWRP Equestrian Area

CONTENTS

Looking Up!

Well guys and gals, Punxatawney Pete saw his shadow this AM! Only six more weeks of winter remain and Al Gore of internet fame confirms it! So get in to that garage ("man cave") and gather up that equipment stored since late November and those new scopes that brought all those clouds. It's clean-up, tune up, and comb those catalogs and AstroMart time once again.

With Leo ascending and Orion high over head, can you smell spring? The Messier galaxies in Coma B. and the great M13 in Hercules are returning! Can the first ECSP of the year be far behind? Time to dust off those Messier Marathon guides and books and try once more to tie or best last years records. Start studying.

Bruce "Doc" Bodner

New Digs

After many years, the BBAA will no longer be meeting in the Pungo building on the Virginia Beach TCC campus. That is because the new Advanced Technology Center is now open and ready to hold classes. Our gracious host TCC Professor Kenny Broun, has renewed our invitation for the BBAA to hold our monthly meetings in their new facility.

The new facility boasts a planetarium as well as an observatory of their own. I hope that you will come join Professor Broun and the rest of our regular BBAA meeting attendees to welcome in the new TCC facility this month!

Chuck Jagow

January's Meeting Minutes

The January meeting of the Back Bay Amateur Astronomers was called to order by President Bruce Bodner on Thursday January 3, 2008 at 7:30 PM at the Cox Communications building in Chesapeake.

Members in Attendance:
There were 22 members, 1 new member and 2 potential members were in attendance at the January meeting. BBAA welcomes new member Jeff Goldstein, who signed up at the meeting..Welcome to the club, we are glad to have you! The two potential members were Nancy Kelly and John Teneyck Regular members in attendance were: Neill Alford, Rick Bish, Bruce Bodner, Jordan Bramble, Gerry Carver, Ted Forte, Jay Garrard, Mark Gerlach, Steve Hamilton, Robert Harris, David Hedrick, Chuck Jagow, Karen Jagow, Georgie June, James Kresky, Ben Loyola, Matt McLaughlin, Bill McLean, George Reynolds, Kevin Swann, Barb Weiner and Kevin Weiner.

Treasurer's Report:
$4,879.71 Total
$1,820.80 Scholarship Fund
$3,058.91 Total Available For Club Operations

Secretary's Report:
The reading of the December minutes were waived, as they generally are, because they are posted on the Internet.

Astronomical League Correspondent's Report:
Georgie reports that Cliff Hedgepeth has completed the Constellation Hunter pin and is proceeding along nicely to be the clubs next Master Observer. Go Cliff!!!

Old Business:
None.

New Business:
Many thanks go out to Jay Garrard for donating a set of "The Sky At Night" programs to the club.

The 2008 permits for Chippokes are available for anyone needing a copy.

Discussed the permit situation in regards to Cornland Park in Chesapeake. Chuck reminded the group that our current permit is basically issued to him. This means that all members wishing to observe must have Chuck present and have filed a Waiver of Liability with the City. Chuck will try to talk with the Chesapeake parks people to explore the possibility of broadening the permit for the club. Until this is done, all club members need to be mindful of the existing permit and its requirements and restrictions.

Discussion commenced about getting the 2008 club brochures printed. George offered to post the new brochures on the yahoo group.

Orders for the 2008 RASC Observers Handbooks were being taken by George Reynolds. The more orders, the cheaper the price. If interested, contact George for details.

The venue for the February club meeting is still up in the air. Will probably be held at the new TCC planetarium (If Ready) or Cox. Stay Tuned.

The upcoming lunar eclipse was brought up and the possibility of us participating in a public event was also discussed. Stay Tuned.

Rapid Response Robotic Telescope Project Report:
Ted Forte Reported that the new Apogee camera was ordered by Carlos in December. RRRT activities should resume after a holiday hiatus with Carlos' return in January, and the subsequent install of the new Bisque Hardware.

Club Meeting Presentation:
Thank you Rob Schonk, for supplying this month's presentation -- "Roving Mars". A Disney video presentation about the Mars Rovers Spirit and Opportunity.

In Conclusion:
The meeting was adjourned at around 9:30 PM.

Also, There is a new Sheriff in town along with his Three Deputies:

President – Bruce Bodner
Vice President – Chuck Jagow
Treasurer – Neill Alford
Secretary – Matt McLaughlin

Matt McLaughlin

MAP TO THE NEW BBAA MEETING LOCATION

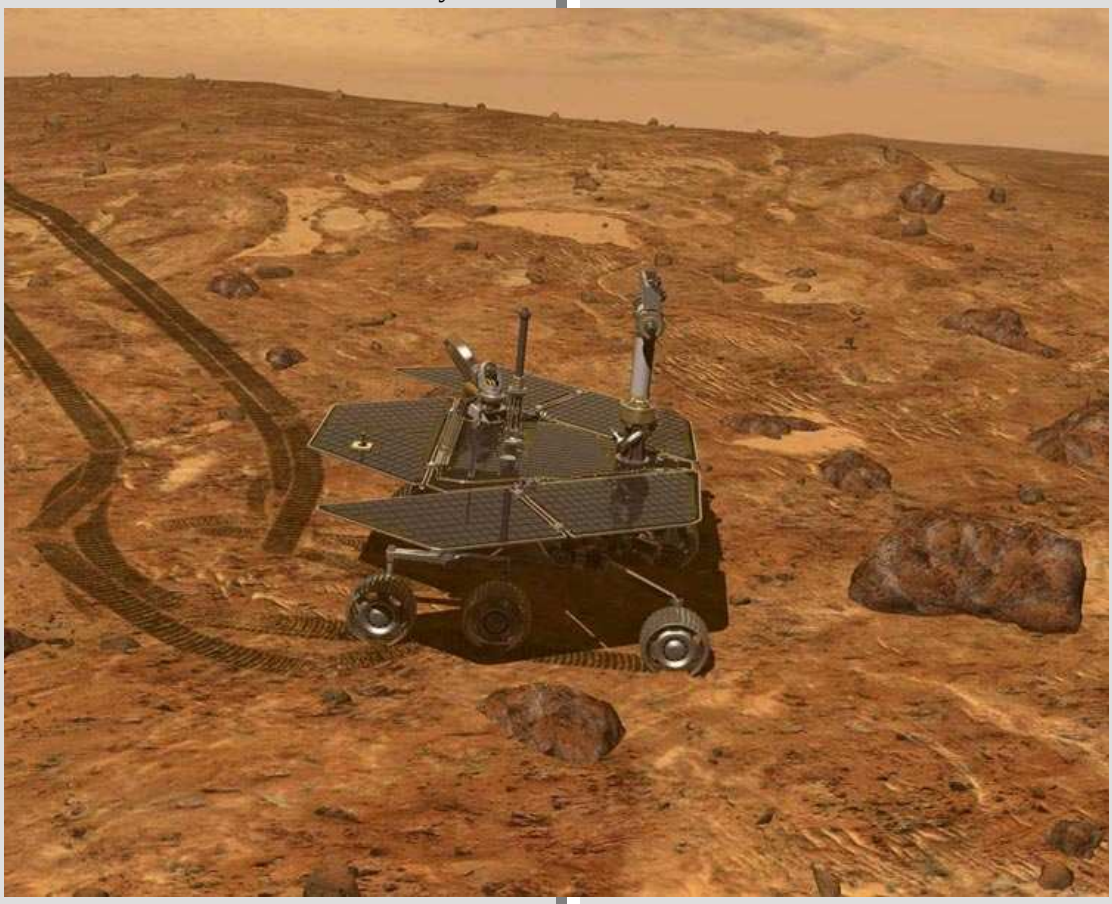
Don't confuse the Adult Learning Center with the Advanced Technology Center, they are **NOT** the same buildings. The Adult Learning Center is the building that will be in front of you when you first turn off of Concert Drive, ignore it and turn right on University Drive and proceed to College Crescent where the parking lots begin. Then just walk South of the ATC and go in the Science Building.

NASA's Space Place

No Mars Rock Unturned

by Patrick L. Barry

Imagine someday taking a driving tour of the surface of Mars. You trail-blaze across a dusty valley floor, looking in amazement at the rocky, orange-brown hillsides and mountains all around. With each passing meter, you spy bizarre-looking rocks that no human has ever seen, and may never see again. Are they meteorites or bits of Martian crust? They beg to be photographed.



But on this tour, you can't whip out your camera and take on-the-spot close-ups of an especially interesting-looking rock. You have to wait for orders from headquarters back on Earth, and those orders won't arrive until tomorrow. By then, you probably will have passed the rock by. How frustrating!

That's essentially the predicament of the Spirit and Opportunity rovers, which are currently in their fourth year of exploring Mars. Mission scientists must wait overnight for the day's data to download from the rovers, and the rovers can't take high-res pictures of interesting rocks without explicit instructions to do so.

However, artificial intelligence software developed at JPL could soon turn the rovers into more-autonomous shutterbugs.

This software, called Autonomous Exploration for Gathering Increased Science (AEGIS), would search for interesting or unusual rocks using the rovers' low-resolution, black-and-white navigational cameras. Then, without waiting for instructions from Earth, AEGIS could direct the rovers' high-resolution cameras, spectrometers, and thermal imagers to gather data about the rocks of interest.

"Using AEGIS, the rovers could get science data that they would otherwise miss," says Rebecca Castaño, leader of the AEGIS project at JPL. The software builds on artificial intelligence technologies pioneered by NASA's Earth Observing-1 satellite (EO-1), one of a series of technology-testbed satellites developed by NASA's New Millennium Program.

AEGIS identifies a rock as being interesting in one of two ways. Mission scientists can program AEGIS to look for rocks with certain traits, such as smoothness or roughness, bright or dark surfaces, or shapes that are rounded or flat.

In addition, AEGIS can single out rocks simply because they look unusual, which often means the rocks could tell scientists something new about Mars's present and past.

Image Caption:

Are these rocks of any scientific interest? With the new AEGIS software, the Mars Rovers, Spirit and Opportunity, will be able to judge for themselves whether a scene is worth a high-resolution image. (Artist's rendering.)

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 February meeting will be on Thursday February 7th at 7:30 PM at the new planetarium in the new Science building of the Advanced Technology Center on the Virginia Beach TCC 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.

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://groups.hamptonroads.com/bbaa

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 December for the January issue. Please submit all items to:

ObserverBBAA@cox.net / chuck@jagowds.com

OR

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Planets Through the Eyes of a Child

Tonight, June 22, 2007, Linda and I are babysitting two of our grandchildren, 4 1/2-year-old Samantha and 2 1/2-year-old Scotty. They are spending the night with "Mema" and "PopPop" and as Linda was finishing reading them a story just before bedtime, Samantha asked if we could go outside and see Saturn.

She had seen my little Orion XT 4.5, the 4.5-inch Dob I am saving for my grandchildren. I had it out earlier to show them the first-quarter Moon. She told me she learned about Saturn in her Leap Pad "book".

As Linda was putting Scotty to bed, Samantha and I went out in the twilight sky just before 9 pm. The First Quarter Moon was shining in the sky, so I trained the scope on it for her to see craters and mountains. The XT 4.5 is just the right height for a youngster to look through the eyepiece without a stepstool. Samantha then saw a bright light in the sky and said excitedly, "What's that?" I told her it was Venus. "Oh, can I see Venus?" she asked. Of course I said yes, and showed her Venus, almost a miniature image of the first quarter Moon. Venus is at half-phase now from our vantage point on Earth.

She still wanted to see Saturn, and I knew it was somewhere near Venus in the sky, but was not yet visible in the light blue, twilight sky. I took Samantha inside to my computer and activated the "Stellarium" program, which gives a very realistic view of the night sky and the horizon, complete with twilight effects. With it we easily found Saturn, about midway between Regulus and Venus. Regulus was slightly less than midway between the Moon and Venus.

Back outside I estimated where Saturn should be, aimed the scope in that area, and -- Voila! -- found Saturn in just a few seconds. Samantha asked, "Will I see the rings?" I let her look through the low-power 25-mm eyepiece (36X) but she couldn't make out the rings. I explained that they stick out on both sides of the planet, but she still didn't see them. So I put in my Pentax XL 14-mm ep for a 65X view. Now Samantha was able to see the rings, and she got excited. I then added a 2x Barlow, for 130X, and the rings stood out clearly. Samantha was overjoyed.

She then saw a bright spot on the other side of the sky, and asked, "What's that, PopPop?" I told her it was Jupiter, and we could look at it, and even see some of its moons. I quickly realigned the scope and focused on Jupiter at 36X and showed her the low-power view, and then the higher-power 65X view with the Pentax. She thought that was neat. The four Galilean moons stood out like tiny pearls near the bright disc of Jupiter. Then she asked what that spot was near Jupiter, and I explained that it was the star Antares, a red giant star, and that's why it looks reddish-orange.

As I put away my equipment, I was gratified for the interest of a 4-year-old child. She was excited and couldn't wait to tell Mema what she had seen, and will surely tell her mommy and daddy tomorrow.

She surprised me with her interest in the planets, and her alertness and eagerness to learn about them. I hope her enthusiasm grows as she grows, and I can be able to help fan the flames of her interest in astronomy and her understanding of our place in space.

I bought that XT4.5 scope several years ago with grandchildren in mind. It is beginning to pay off. I would like to see each of my grandkids (I have six so far, and two more on the way within the next six months) develop an interest in the stars and planets. I would love to be able to give one of them that little 4.5" Dob. If that happens, I'll buy another one... and another one... until all of my grandchildren who want one has a telescope to call their own.

George Reynolds

OBSERVERS CORNER

March 2007 - (Editor's Note: Since we were shut out of a view of TU24 last week, here is an older report for us to enjoy)

The asteroid 2006 VV2 made its way across the sky precisely as predicted Friday night/Saturday morning March 30 & 31. Although the atmospheric seeing was only rated 7/10 the transparency proved to be 9/10, despite a nearly full moon.

2006 VV2 was only 9 times the distance of the moon from Earth (two million miles) and about one mile in diameter.

I joined Mark Ost and Stan Hubbard at Mark's home located in the Back Bay area of Virginia Beach, VA. Since the asteroid was not going to gain any brightness exceeding 10.0 magnitude I thought it best to use at least a 10" telescope so I took along my Orion 10" f/4.7 Dobsonian; that proved to be the perfect telescope. A Dobsonian is very comfortable when viewing near the zenith, which is where the asteroid was slicing across the sky. I also had on hand my 80mm f/7.5 refractor just to see if the asteroid would be visible with such small aperture. It was indeed visible, but averted vision had to be used to see it.

My goal was to watch 2006 VV2 pass in front of the bright 6.8 magnitude double star SAO 81381 in Leo Minor at approximately 11:51 pm E.D.T. I was about a minute off in my prediction, but sure enough it cut across the very eastern tip of that star, almost grazing it but surely occulting the star. I suspected seeing the star dim ever so slightly, but I was so excited at that point I couldn't be certain of accuracy determining the magnitude drop. That was neat as toast! It was the bee's knees! It was just too cool! It was the best I've ever seen an asteroid. I hope everyone else had the opportunity to witness it. No other known asteroid that bright will pass so closely to the Earth until 2036.

Kent Blackwell

November 2007 - I just got in from some stargazing, which included looking at Comet Holmes. Bruce Bodner, Chuck Jagow, Larry Channel and I supported a Boy Scout group camping out in Chesapeake tonight. Comet Holmes looked impressive in binoculars and the finder scope, and was big in the eyepiece of my 10" Dob. At 57x I could get it and Mirfak (Alpha Per) both in the FOV, and the big fuzzy cotton ball filled half the eyepiece.

Bruce gave the boys a brief laser-guided tour of the night sky, while Larry, Chuck and I showed them various sights, which included the comet, the Moon, the Double Cluster, the Double-Double, the Pleiades, the Ring Nebula, Albireo, Aldebaran, WZ Cas (carbon star), and a few other things I can't remember. By the time we called it a night at 9pm there was frost on our telescope tubes. The boys were impressed, but as usual, their leaders were more impressed with what they saw.

George Reynolds

MORE ASTEROID CHASING

John Raymond and I were out in his yard in Chesterfield, southwest of Richmond, Virginia until after 4:30 the morning of Monday, July 3, 2006 straining our eyes to try and see the asteroid, 2004 XP14. John was on his 12.5 Discovery truss tube Dob and I on my Orion XT10i. No joy, we couldn't see it, though we had minute-by-minute charts provided by John on frequent trips into the house for the computer to print some more.

The air was very still and free from dew, but the skies were full of haze. The northeast sky, where we were looking for XP14 in the region of Perseus and Cassiopeia, suffered not only from the haze and high, thin clouds, but also from skyglow provided by the city of Richmond. At times I wished I had brought the Computerized Object Locator (COL) for my IntelliScope. In the murky skies it would have been easier to use the COL to find some of the target areas through which the asteroid was to pass.

The night started out about 8:00 pm Sunday night, July 2 with a bunch of guys from the Richmond Astronomical Society setting up their scopes in John's front yard and driveway. I arrived about a quarter to nine and dragged out my scope, chair, and star charts. The almost-first-quarter Moon and Jupiter were visible in the twilight, and guys were already focusing on them through the haze. During the night I was able to identify a couple of dozen craters on the Moon. I have never before spent so much time staring at Jupiter, but it was time well spent. I have never seen more details in the cloud tops of old Jove than I saw last night. We saw the dance of the Galilean moons as they waltzed around Jupiter. I watched the Great Red Spot (we called it the Great Dim Spot) make its trip all the way from one side of the planet to the other in the hours from 9:00 PM to about 2:00 AM Sunday morning.

John and I were the only ones to stay all night. Most of the fellow stargazers left before midnight. After the Moon went down behind the trees, and the high clouds obscured Jupiter for a while, John and I went in the house to watch The Weather Channel ("Storm Stories" and "Full Force Nature" -- tornado stories) and eat leftover pizza. After midnight we spent a couple of hours looking at double stars and a few globular and open clusters, while we waited for the asteroid to get into our part of the sky, over the roof and between the houses. I saw GC M80 and double stars Nu Sco, Omega 1 and 2 Sco, and Beta Sco in my scope. In John's 7" Meade LX200 I saw double star Alpha Her (Rasalgethi), 70 Oph, and variable star R (something). We also saw a minor planet, asteroid Pallas in Hercules and a couple of open clusters in Ophiuchus.

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Though we didn't see the close flyby of asteroid 2004 XP14, John and I enjoyed the "thrill of the hunt". Despite the haze and the bright skies, we had seen a number of heavenly objects, and enjoyed getting together with other "astro-nuts" for an impromptu stargazing party.

George Reynolds

4 Years on Mars: Rovers Continue to Amaze

By David Mosher

Two robots the size of golf carts were given 90 days to squeeze as much science as possible from the barren, dust-swept terrain of Mars. After that, scientists expected nothing more from them than death.

Nearly four years after their warranties expired, however, the Mars Explorations Rovers (MERs) "Spirit" and "Opportunity" continue to play productively in the red dirt.

Spirit celebrates its fourth anniversary of Martian work on Jan. 4, the day it landed in 2004, followed by Opportunity on Those four Jan. 25. Earth years since landing convert to 2.25 Martian years, or 1,422 Martian days called "sols."

"We never thought we'd still be driving these robots all over Mars," said Mark Lemmon, a planetary scientist at Texas A&M University and member of the rover science team. "We joked about driving Opportunity into Victoria Crater, but now we're there, and we're looking at doing even more science. Each day they still work is an amazing one."

Happy anniversary Since the rovers bounced onto Mars' surface, they have collectively driven more than 11.8 miles (19.1 kilometers) and snapped more than 210,000 images. That's roughly 55 standard DVD movies worth of uncompressed data.

Scientists have used this information through the years to crank out more than 100 studies about the planet's geologic past "with many more in progress," Lemmon said.

"It's been a great year for the rovers and we're getting deeper into Martian history than we've ... done before," Lemmon said. "These robots have entirely changed the way we view Mars."

Those views include support for the existence of water on Mars, at least in the past, in the form of silica and meteorites.

In addition to that evidence, the year 2007 inflicted a global dust storm on the rovers. Although indirect sunlight powered the rovers through the dusty conditions, more than 96 percent of direct sunlight to their solar panels was filtered out.

"It was scary there for a while," Lemmon said of the low-light conditions that nearly drove the rovers to a permanent standstill.

Despite the nerve-wracking task of keeping both rovers power-positive - and their electronic circuits from snapping in the Martian cold - Lemmon explained that new science is still trickling out as a result of the weather event.

"The Mars orbiters looked down on the dust storm when it happened, but they didn't measure changes on the ground like the rovers did," he said. "The rovers are really helping us to better understand these storms."

Winter parking spot Now that the dusty, five- to six-month Martian summer is waning and winter is creeping up, earthly operators have pinned down an over-winter parking spot for Spirit.

The rover suffered software glitches early in the mission, and now drives backward as its front right wheel is indefinitely stuck. Making matters worse is the literal fallout from the recent dust storm.

"Right now, we're working with the dustiest rover we've ever had," Lemmon said, who does not expect whirling dust devils to clean off the rover's coated solar panels any time soon. "As a result, we pretty much consider Spirit parked."

Lemmon said Opportunity, however, is in good shape to continue exploring and the team has no definitive date for parking the adventurous machine.

"Opportunity has much cleaner [solar panels] than Spirit," Lemmon said, "so there's no discussion of racing it to a north-facing slope for the winter."

Scientists used the north-facing-slope trick in the past, which helps maximize direct sunlight to the rover's solar panels during the dim Martian winter.

While Opportunity continues to maneuver around Victoria Crater, Spirit is presently resting on a slope of Home Plate - a layered outcrop of rock in the shape of a baseball home plate. "It'll stay in one place for a long time, but we'll still be able to do some science," Lemmon said.

That science includes watching the sky for water-crystal clouds and taking atmospheric measurements, but the rover may also witness a potential asteroid impact later this month.

"I'm not optimistic for the rovers seeing anything ... [but] we have some hope of seeing the impact cloud as it disperses around the planet," Lemmon said. "I like the thought of a birthday present from Mars. It'll certainly contribute more excitement to the mission."

Photos courtesy **NASA JPL**

FEBRUARY 2008

BBAA EVENTS	SPECIAL OUTREACH	ASTRONOMICAL EVENTS
01 = SKYWATCH @ NWRP, Dusk		
02 = CLOVERWATCH @ Franklin Fairgrounds, Dusk C A N C E L L E D		
07 = BBAA Monthly Meeting @ TCC VB Campus, ATC New Science Building, 7:30 PM		**08**= NEW MOON
09 = NIGHTWATCH @ Chippokes State Park, Dusk		
		13 = FIRST QUARTER
16 = GARDENSTARS @ Norfolk Botanical Gardens, 7:00 PM, POC: Kevin Weiner		
	20 = Eclipse Watch @ Chesapeake Planetarium, 7:30 PM - POC Kent Blackwell	**20** = FULL MOON & **LUNAR ECLIPSE**
	26 = Science Night @ Green Run Elementary, 1200 Green Garden Circle, VB @ 6:00 PM - POC: Chuck Jagow	
29 = SKYWATCH @ NWRP, Dusk		**28** = LAST QUARTER