



Back Bay Observer



The Official Newsletter of the Back Bay Amateur Astronomers

February 2006 Issue
 Edited by Barb Weiner

Please submit any articles for the
 Back Bay Observer
 to
 Barb Weiner at
 barb.weiner@cox.net
 no later than

the **24th**
 of the month.

Please type
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 article.

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Back Bay Amateur Astronomers
 P.O. Box 9877
 Virginia Beach, VA 23450-9877

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Looking Up

Community Outreach Opportunities Galore!

"Bringing Astronomy to the People of Hampton Roads" has been the motto of the BBAA for many years. Heck, it brought me up to a knowledge level I had never expected! Our club reaches out beyond the membership and seeks to show those of the general public, especially children, the wonders of the night sky.

Our hope is that such an introduction to the stars and planets will kindle a spark within them to learn more, to go on and get involved in astronomy or some related science. That is one reason the BBAA Scholarship was started, to encour-

age young men and women in high school to "reach for the stars".

See the article in this newsletter concerning opportunities for outreach, and make a "New Year's Resolution" to get involved. As the maker of running shoes says, "JUST DO IT!"

I encourage each of our BBAA members to volunteer for an upcoming event. Just by being there you will be doing a good service, and you will learn from the "old hands" and gain confidence in the process. Come to the February meeting and learn more about the opportunities to REACH OUT. In that way you can get others in our community to start LOOKING UP.

George

BBAA FEBRUARY MEETING

Thursday, February 2, 7:30 p.m.

TCC Virginia Beach Campus
 Room F112 Pungo Building

Presenter: Steve Hamilton



JANUARY MEETING MINUTES

January 5th, 2006

The January meeting of the Back Bay Amateur Astronomers was called to order by Vice-President Kevin Weiner on Thursday January 5th, 2006 at Cox Communications in Chesapeake due to the fact that the Virginia Beach TCC campus was still on Christmas break. George Reynolds was unable to attend due to his employment schedule.

Twenty three members were present including Dale Carey, Benito Loyola, Kevin Weiner, Barb Weiner, Robert Harris, Gerry Carver, Tom Pearson, Larry Channel, Chuck Jagow, Karen Jagow, Bill Setzer, Matt McLaughlin, Bird Taylor, Dr. Bruce Bodner, Frenchie Frye, Homer Rushing, Georgie June, Ted Forte, Dave Sanderson, Michelle Shinn, Charles Allewelt, Niel Alford and new member Mike Pereira.

Another "new" member Frenchie Frye, who introduced himself and we all welcomed him back after a long deployment.

Chuck Jagow reported that we had about 115 members and forty one were in need of paying their dues, most of which were due in December.

Georgie June provided the Alcor's report which stated that Ted Forte had finished the requirements for the Globular Cluster list and that Ted was dangerously close to acquiring his Master Observers pin. The Masters Observers are those folks who have completed at a minimum of ten observing programs.

The treasurer Barb Weiner, reported that we have \$4,521.06 total, \$786.27 in the scholarship fund and \$3,734.79 for club

operations.

The next Skywatch was discussed in that many folks are bringing 80mm-90mm refractors for a showdown of sorts. This led to a discussion concerning the new refractors from Meade, which have yet to be introduced. Soon the group was talking about all of the new offerings coming out from Meade. This included the Light bridge truss-dobs, the LX-200R SCT scope, RCX-400 16" & 20" and the two new DSI II cameras.

Ted Forte reported that Phil Walter, a reporter from the Virginia Pilot is planning on writing an upcoming article about the RRRT project. Ted and Dr. Salgado will likely be candidates for interviews.

During the Observers corner we commiserated about the clouds.

The upcoming January schedule was reviewed which included:

Skywatch at the Northwest River Park is on the 20th.

Cloverwatch in Franklin is on the 21st.

Nightwatch at Chippokes is on the 28th.

The next meeting is February 2nd at TCC in Virginia Beach.

Ben Loyola provided the main presentation in which he detailed his efforts in searching for minor planets with a remote robotic telescope.

Tom Pearson graciously provided the refreshments in George's absence. Many thanks to him!

The meeting was adjourned a little after 9:18 PM.

Don't Miss the February BBAA Meeting

You won't want to miss the BBAA meeting Thursday, February 2, 2006 at 7:30 pm at TCC, Virginia Beach Campus. Many of you have been awed by your telescopic views of the stars, planets, galaxies, and nebulae, and especially so by astrophotographs, which reveal more color and detail than the human eye can see.

Our own Steve Hamilton is going to be speaking to us about "astroimaging", the term that is rapidly replacing "astrophotography". Since many astro-picture-takers use digital cameras, which make digital images instead of photographs on film, the science and art has been changing rapidly.

If you are even remotely interested in capturing those awesome scope views with a camera, come hear what Steve has to say. Even if you are not interested in imag-

ing, come and be tickled by Steve's wit and humor. If you are like me, and don't want to take pictures, but want to look at the images others have taken, c'mon along and find out how they do it.

Steve has a wondrous array of images on his Web site, www.astroadvantage.com. He has set up an observatory at his home in Chesapeake, not far from Battlefield Boulevard, hence the name, "Battlefield Observatory". Steve will be moving soon to northern Virginia, where he has already staked out a site for his new "King George Observatory".

Come see Steve's slides and hear his talk at the Feb. 2 meeting. You won't be disappointed. Satisfaction is guaranteed or your money back (the meeting is FREE). The meeting will be held in Room F-112 of the Pungo Building. C U there!

Welcome New Members

Mike Pereira

Greg Nottingham

"Bringing Astronomy to the People

by George Reynolds

The Back Bay Amateur Astronomers club was started 27 years ago in December, 1978. I wasn't around back then, but some of our members were. Somewhere along the line, the motto was adopted, "Bringing Astronomy to the People of Hampton Roads", to share the wonders of the night sky with others – people who may not even think to look up.

BBAA has several ongoing outreach programs, like our monthly Skywatch for the public at Northwest River Park, Garden Stars at Norfolk Botanical Gardens, Cloverwatch with 4H kids, and the Indian River Middle School monthly astronomy club meeting. We also participate in Project Astro, partnering with Greenbrier Middle School to help science teachers and students. We sometimes set up telescopes at the Chesapeake and Virginia Beach Planetari-

ums after their sky shows.

There are a number of annually recurring events, such as Astronomy Day and Earth Day every spring, Lunar Festival at GBMS, and other events at Cedar Road, North Landing, and other schools. Lately, we have been receiving a number of new requests from the Civil Air Patrol, Girl Scouts, Boy Scouts, church groups, and other school and community groups wanting someone to tell them about astronomy and show them the stars.

Last fall I gave a presentation to a group of seniors at a "seniors center" in Denbigh. That was the liveliest group of 70- and 80-year-olds I have ever seen! They had a lot of good questions, and were excited to see Mars and Saturn, and the Moon in its nearly-three-dimensional glory. The appeal of astronomy is ageless. We reach out to kids, their parents, and their grandparents. There is no age limit.

These events, when scheduled,

get put in the Yahoo calendar for the Backbayastro Yahoo group, the news and talk forum for the BBAA. If you are not yet a member of backbayastro, you are missing half the fun. That's the way we keep up to date on what is going on in the club and our community. Go to <http://groups.yahoo.com/group/backbayastro/> or to www.yahoo.com and click on Groups, then Science, then Astronomy, then Amateur, then you can either scroll down through the 770 groups until you find backbayastro, or you can type "backbayastro" in the Search field, and click "Go". It's free! Join now!

The schedule is reviewed at the club meeting, the first Thursday of each month. Bring your personal calendar and select the event(s) for you. The newsletter, *The BBAA Observer*, which you are reading now, lists many of the events and outreach opportunities for members to jump in on.

BBAA members, I promise you will have fun participating in

events such as these. Not only will the children and adults learn from you, YOU to will learn a lot, and have fun doing it! It is a fact that the teacher learns more than the students, just by preparing to present the information.

As I said in my "Looking Up" column, I encourage each of our BBAA members to volunteer for an upcoming event. Talk to those who have been participating. Ted, Georgie, Kevin, Matt, Steve, Chuck, and others can tell you how gratifying it is to see the light come on in someone's eyes when they see craters on the Moon or the rings of Saturn for the first time.

Who knows, maybe YOU will be the one to inspire a student to get into astronomy, and become the next Walter Scott Houston, or Carl Sagan, or Einstein, or the first man or woman to walk on Mars!

Stardust@Home

by Chuck Rippel

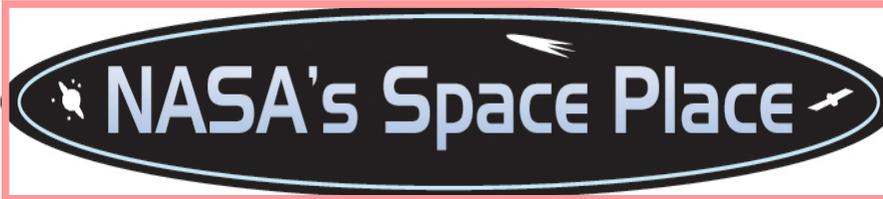
For those who might wish to become personally involved in the Stardust program, an avenue is available. There are 1.5 million microscopic views which must be scrutinized. USC Berkeley & NASA are actively seeking help to accomplish this rather monumental task. I did some cut and pasting from the www site to provide an overview. "First, you will go through a web-based training session. This is not for everyone: you must pass a test to qualify to register to participate. After passing the test and registering, you will be able to download a virtual microscope (VM). The VM will automatically connect to our server and download so-called "focus movies" -- stacks of images that we will collect from the Stardust Interstellar Dust Collector using an automated microscope at the Cosmic Dust Lab at Johnson Space Center. The VM will work on your computer, under your control. You will search each field for interstellar dust impacts by focusing up and down with a focus control

Background from Astronomy Magazine available here: <http://www.astronomy.com/asy/default.aspx?c=a&id=3846>

Information on Participation is here: <http://stardustathome.ssl.berkeley.edu/background.html>

In January 2004, the Stardust spacecraft flew through the coma of comet Wild2 and captured thousands of cometary dust grains in special aerogel collectors. Two years later, in January 2006, Stardust will return these dust grains ---the first sample return from a solid solar-system body beyond the Moon --- to Earth. But Stardust carries an equally important payload on the opposite side of the cometary collector: the first samples of contemporary interstellar dust ever collected. As well as being the first mission to return samples from a comet, Stardust is the first sample return mission from the Galaxy. But finding the incredibly tiny interstellar dust impacts in the Stardust Interstellar Dust Collector (SIDC) will be extremely difficult. We are seeking volunteers to help us to search for these tiny samples of matter from the galaxy. Volunteers are critical to the success of this project. Please help us find the first samples of contemporary Stardust ever collected.

Chuck Rippel
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<http://www.r390a.com/VAskies/>



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

Snowstorm on Pluto

by Dr. Tony Phillips

There's a nip in the air. Outside it's beginning to snow, the first fall of winter. A few delicate flakes tumble from the sky, innocently enough, but this is no mere flurry.

Soon the air is choked with snow, falling so fast and hard it seems to pull the sky down with it. Indeed, that's what happens. Weeks later when the storm finally ends the entire atmosphere is gone. Every molecule of air on your planet has frozen and fallen to the ground.

That was a snowstorm—on Pluto.

Once every year on Pluto (1 Pluto-year = 248 Earth-years), around the beginning of winter, it gets so cold that the atmosphere freezes. Air on Pluto is made mainly of nitrogen with a smattering of methane and other compounds. When the temperature dips to about 32 K (-240 C), these mole-

cules crystallize and the atmosphere comes down.

"The collapse can happen quite suddenly," says Alan Stern of the Southwest Research Institute. "Snow begins to fall, the surface reflects more sunlight, forcing quicker cooling, accelerating the snowfall. It can all be over in a few weeks or months."

Researchers believe this will happen sometime during the next 10 to 20 years. Pluto is receding from the warmth of the Sun, carried outward by its 25% elliptical orbit. Winter is coming.

So is New Horizons. Stern is lead scientist for the robotic probe, which left Earth in January bound for Pluto. In 2015 New Horizons will become the first spacecraft to visit that distant planet. The question is, will it arrive before the snowstorm?

"We hope so," says Stern. The spacecraft is bristling with instruments designed to study Pluto's atmosphere and surface. "But we can't study the atmosphere if it's not there." Furthermore, a layer of snow on the

ground ("probably a few centimeters deep," estimates Stern) could hide the underlying surface from New Horizon's remote sensors.

Stern isn't too concerned: "Pluto's atmosphere was discovered in 1988 when astronomers watched the planet pass in front of a distant star—a stellar occultation." The star, instead of vanishing abruptly at Pluto's solid edge, faded slowly. Pluto was "fuzzy," it had air. "Similar occultations observed since then (most recently in 2002) reveal no sign of [impending] collapse," says Stern. On the contrary, the atmosphere appears to be expanding, puffed up by lingering heat from Pluto's waning summer.

Nevertheless, it's a good thing New Horizons is fast, hurtling toward Pluto at 30,000 mph. Winter. New Horizons. Only one can be first. The race is on....

Find out more about the New Horizons mission at <http://pluto.jhuapl.edu>. Kids can learn amazing facts about Pluto at spaceplace.nasa.gov/en/kids/pluto.



This artist's rendering shows how Pluto and two of its possible three moons might look from the surface of the third moon. Credit: NASA/ESA and G. Bacon (STScI)

President

George Reynolds
pathfinder027@yahoo.com
(757) 497-0755

Vice President

Kevin Weiner
kevin.weiner@cox.net
(757) 548-4936

Secretary

Chuck Jagow
chuck@jagowds.com
757-547-4226

Treasurer

Barb Weiner
barb.weiner@cox.net
(757) 548-4936

LATEST NASA NEWS

STARDUST Returns

After almost seven years on its journey, the STARDUST spacecraft completed its mission by returning to Earth a sample of "stardust" and comet material. Launched February 2, 1999, STARDUST collected "space dust" from the solar wind as it journeyed to a rendezvous with Comet Wild-2 on January 2, 2004.

On its way there it flew by asteroid Annefrank November 2, 2002, in a test of its ability to maneuver and take pictures of the distant object.

When it finally caught up to the comet, STARDUST had traveled more than two billion miles, counting its extra trip around Earth for a gravity assist. As it passed through the coma of Wild-2, its collector was open to capture particles streaming off the comet. The spacecraft's vital instruments were protected by its "Whipple Shields" (named for Fred Whipple, the scientist who gave us the term "dirty snowball" to describe a comet) as it passed through the cometary "stuff".

The sample return capsule (SRC) then closed up for the return to Earth. It was so far away, it took two more years to return its sample. The SRC parachuted safely to Earth, on target and on time, at the Air Force's Utah Test and Training Range, January 15, 2006.

Scientists are now in the process of analyzing the particles returned in the capsule. They are enlisting the aid of interested members of the public to use the processing power of personal computers to help identify the fragments returned from space (see related article, "STARDUST at home").

You can learn more about STARDUST on the NASA Web site: <http://stardust.jpl.nasa.gov/home/index.html>

New Horizons Mission Begins

The New Horizons mission to Pluto and beyond, launched successfully from Cape Canaveral on Thursday, January 19, 2006 on its nine-year mission to Pluto and the Kuiper Belt. This first-ever visit to the ninth planet will greatly multiply our knowledge of Pluto and its moon Charon and other objects in the surrounding space.

The spacecraft will spend five months observing and probing Pluto as it approaches and flies by, and will then continue on many billions of miles beyond, to seek out the mysteries of the Kuiper Belt, that neverland of icy planetoids and comets of which we now know very little. The mission is also being referred to as the "PKB" mission to Pluto and the Kuiper Belt.

The mission is under the guidance and control of the Johns Hopkins University Applied Physics Laboratory (JHUAPL). Principal Investigator Alan Stern, who is also executive director of the Southwest Research Institute's Space Studies Department, Boulder, Colorado, was overjoyed at the textbook success of the launch.

More can be learned from the New Horizons Web site, <http://pluto.jhuapl.edu/>.



STARDUST capsule fireball 20060115



STARDUST capsule ground 20060115



New Horizons Launch 20060119

Planetarium Info:**Chesapeake**

"For information call (757) 547-0153

For recorded message (757) 547-STAR

February "War of the Worlds"

Writers such as Jules Vern wrote of other life forms arriving on Earth to take over our planet. Is our Earth the only planet with life? If other life exists in the universe, how might it be different from life on Earth? This program will start with the birth of the solar system based on the latest scientific theories. We will explore the possibility of life among the eight other planets in our solar system and beyond.

Virginia Beach

For information call (757) 431-4067

The Underground Railroad: Connections to Freedom and Science

In July 1998 President Clinton signed a bill into law that would recognize and preserve the Underground Railroad, the South/North escape routes used by freedom-seeking

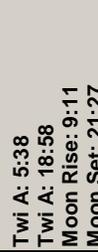
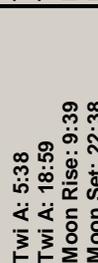
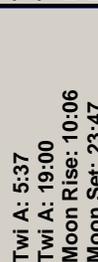
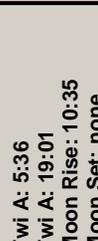
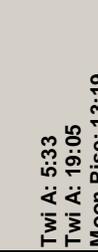
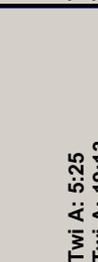
slaves during the 19th Century. The law authorized the National Park Service to physically link the Railroad's "safe houses," to produce educational materials about the Railroad, and to otherwise commemorate this important part of our nation's history.

Slaves traveling the Underground Railroad, usually on foot, depended on celestial navigation to find their way northward. They continually looked to the Big Dipper and the North Star for direction. The purpose of this video is to increase awareness of the Underground Railroad and the role celestial navigation played in its success.

This video is the result of a collaboration between the National Park Service and NASA Educational Resources

Shown February 7, 14, 21, & 28

Note: On Feb 14th we will talk about "The Heart Nebula" IC 1805 in addition to our presentation.

<h1>February</h1>			
 • Mercury and Neptune 1.8° apart	 BBAA Meeting TCC VA Beach	 • First Quarter Moon Garden Stars	 • Moon and Mars 1.5° apart • Neptune in Conjunction with the Sun
 • Moon and Mars 1.5° apart • Neptune in Conjunction with the Sun Twi A: 5:38 Twi A: 18:58 Moon Rise: 9:11 Moon Set: 21:27	 • Mercury and Uranus 1.3° apart Twi A: 5:32 Twi A: 19:05 Moon Rise: 14:16 Moon Set: 5:02	 • Mercury and Uranus 1.3° apart Twi A: 5:31 Twi A: 19:06 Moon Rise: 15:16 Moon Set: 5:47	 • Full Moon Twi A: 5:36 Twi A: 19:02 Moon Rise: 11:07 Moon Set: 0:56
 • Mercury and Uranus 1.3° apart Twi A: 5:34 Twi A: 19:04 Moon Rise: 12:28 Moon Set: 3:09	 • Mercury and Uranus 1.3° apart Twi A: 5:32 Twi A: 19:05 Moon Rise: 14:16 Moon Set: 5:02	 • Mercury and Uranus 1.3° apart Twi A: 5:31 Twi A: 19:06 Moon Rise: 15:16 Moon Set: 5:47	 • Full Moon Twi A: 5:30 Twi A: 19:08 Moon Rise: 17:18 Moon Set: 6:56
 • Mercury and Uranus 1.3° apart Twi A: 5:28 Twi A: 19:10 Moon Rise: 19:15 Moon Set: 7:47	 • Mercury and Uranus 1.3° apart Twi A: 5:26 Twi A: 19:12 Moon Rise: 21:09 Moon Set: 8:29	 • Mercury and Uranus 1.3° apart Twi A: 5:25 Twi A: 19:13 Moon Rise: 22:07 Moon Set: 8:51	 • Full Moon Twi A: 5:30 Twi A: 19:08 Moon Rise: 17:18 Moon Set: 6:56
 • Third Quarter Moon Twi A: 5:21 Twi A: 19:16 Moon Rise: 0:12 Moon Set: 10:12	 • Mercury Greatest Eastern Elongation Twi A: 5:18 Twi A: 19:19 Moon Rise: 3:31 Moon Set: 12:40	 • Mercury Greatest Eastern Elongation Twi A: 5:17 Twi A: 19:19 Moon Rise: 4:29 Moon Set: 13:51	 • Third Quarter Moon Twi A: 5:22 Twi A: 19:15 Moon Rise: none Moon Set: 9:40
 • New Moon Twi A: 5:12 Twi A: 19:23 Moon Rise: 7:07 Moon Set: 19:01	 • New Moon Twi A: 5:18 Twi A: 19:19 Moon Rise: 2:26 Moon Set: 11:40	 • New Moon Twi A: 5:15 Twi A: 19:20 Moon Rise: 5:19 Moon Set: 15:08	 • New Moon Twi A: 5:14 Twi A: 19:21 Moon Rise: 6:01 Moon Set: 16:27
<p>Want to Join BBAA?</p> <p>Send your check for \$18 payable to "BBAA" to:</p> <p>P.O. Box 9877 Virginia Beach, VA. 23450-9877</p> <p>With your name, address, phone, and email address.</p>			