

Pegasus

The BCAAS Newsletter

Berks County Amateur Astronomical Society



President's Message

Happy new Year!

2008 is here, and it looks to start off with a BANG! (pun intended!) That bang is possibly provided by an asteroid!

In case you haven't heard the story, at the end of November, it was discovered that a large (150 ft across) asteroid had just missed Earth (how considerate). A rock this size is capable of creating a crater similar to Meteor Crater in Arizona, or wreak the same havoc as the 1908 blast in Siberia that leveled 1100 square miles of forest.

After this discovery, observations have pointed to the possibility that it has a 1 in 50 chance of striking Mars on January 30, 2008. With 2 working landers on the surface of Mars, and orbiting satellites above, we may have the chance to witness an historic event!

If this happens, it will no doubt answer many questions on impact geology and planetary formation. Check out Space.Com for updates on probabilities. Who knows, if impact calculations give the possibility that it could be seen visually from Earth, since Mars is close right now and the Moon is in last quarter, maybe BCAAS can get together to observe it. Keep your eye on your e-mail for an observing session on January 30!

The night of February 20 also will provide us a chance to see a Lunar Eclipse. Aside from a partial eclipse on August 16, this is the only chance this year to see a total.

Why are these things always happening when it is so COLD ? Can't this stuff be planned better? Call your Congressman and complain!

At least one thing will happen when it's warm. During the wee morning hours of April 2, the very old Moon (3 days before New) will occult Neptune. As far back as I can remember, I don't recall this happening, so it is a rare occurrence. It is a Wednesday morning, but you are welcome to join me at the Flying Field to see it.

Plans are being made now for other observing events this year, including star watches at French Creek Park, Blue Marsh Lake, and Kercher Creek Park. Also, you may want to take in a Planetarium show sometime, as some BCAAS members will be running the shows at various times during 2008.

I want thank all who participated in club events in 2007, and hope you support BCAAS in 2008. You are what makes the organization special!

Dave Brown

Winter 2008

Volume 34, Issue 1

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2008 Slate of Officers & Board Members

President—Dave Brown
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Hotline Coordinator—Paul Becker
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Ultraviolet Surprise by Patrick L. Barry and Tony Phillips

How would you like to visit a universe full of exotic stars and weird galaxies the likes of which astronomers on Earth have never seen before?

Now you can. Just point your web browser to galex.stsci.edu and start exploring. That's the address of the Galaxy Evolution Explorer image archive, a survey of the whole sky at ultraviolet wavelengths that can't be seen from the ground. Earth's atmosphere blocks far-ultraviolet light, so the only way to see the ultraviolet sky is by using a space telescope such as NASA's Galaxy Evolution Explorer.

About 65% of the images from the all-sky survey haven't been closely examined by astronomers yet, so there are plenty of surprises waiting to be uncovered.

"The Galaxy Evolution Explorer produces so much data that, beyond basic quality control, we just don't have time to look at it all," says Mark Seibert, an astronomy postdoc at the Observatories of the Carnegie Institution of Washington in Pasadena, California.

This fresh view of the sky has already revealed striking and unexpected features of familiar celestial objects. Mira is a good example. Occasionally visible to the naked eye, Mira is a pulsating star monitored carefully by astronomers for more than 400 years. Yet until Galaxy Evolution Explorer recently examined Mira, no one would have guessed its secret: Mira possesses a comet-like tail 13 light-years long.

"Mira shows us that even well-observed stars can surprise us if we look at them in a different way and at different frequencies," Seibert says.

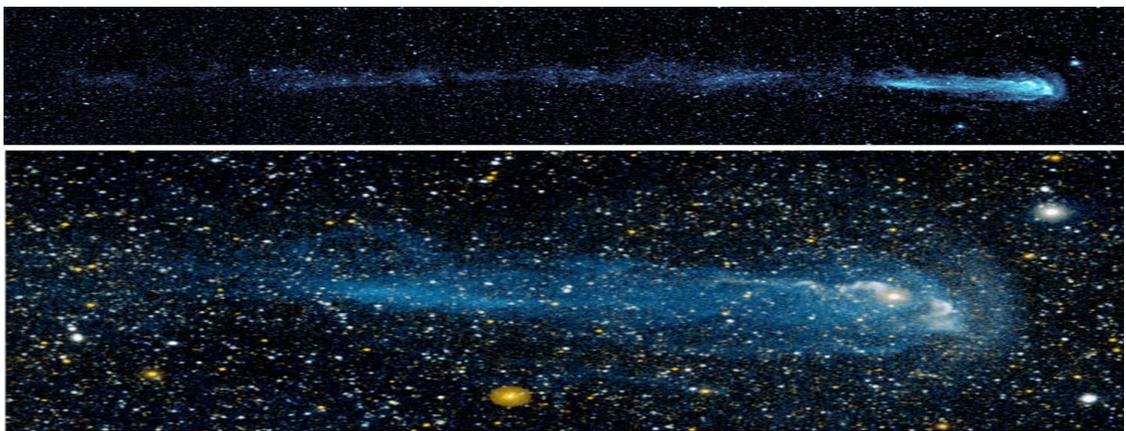
Another example: In April, scientists announced that galaxies such as NGC 1512 have giant ultraviolet spiral arms extending three times farther out into space than the arms that can be seen by visible-light telescopes. It would be like looking at your pet dog through an ultraviolet telescope and discovering his ears are really three times longer than you thought!

The images from the ultraviolet space telescope are ideal for hunting new phenomena. The telescope's small, 20-inch primary mirror (not much bigger than a typical backyard telescope) offers a wide field of view. Each image covers 1.2 degrees of sky—lots of territory for the unexpected.

If someone combing the archives does find something of interest, Seibert advises that she or he should first search astronomy journals to see whether the phenomenon has been observed before. If it hasn't, email a member of the Galaxy Evolution Explorer science team and let them know, Seibert says.

So what are you waiting for? Fire up your web browser and let the discoveries begin!

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



Astronomers looking at new ultraviolet images from the Galaxy Evolution Explorer spacecraft were surprised to discover a 13-light-year long tail on Mira, a star that has been extensively studied for 400 years.

Solar Indigestion!

We usually take our star for granted. We forget that it's not just a big, bright, warm light bulb crossing the sky each day for our comfort and convenience. On the contrary, the Sun has a very active (if not meaningful) life of its own. And it's not always in a good mood. When the Sun is having a tantrum, or, even worse, indigestion, we are included in its "suffering." Space weather includes the effects of solar activity on Earth's environment--and us. Find out more about what happens to Earth during bouts of "solar indigestion" at <http://spaceplace.nasa.gov>.

New & Improved Space Place Trivia!

Covering everything from *asteroids* to *zodiac*, the Space Place Trivia game tests your acquaintance with just about every part of the extensive NASA kids website, The Space Place. Read the term in big red letters (with pronunciation guide), then pick the one sentence out of three in which the word makes sense (instead of nonsense). Recently updated to include newly added topics and activities on the site, the game links each term to the page or activity that explains or demonstrates it. So those "Oop-sies" can quickly be converted to "Right-o's!" Go to <http://spaceplace.nasa.gov> and click on "Games."

New and improved NASA Space Place features—
check them out today!

Member Photo



Photo depicts Comet Holmes, taken by BCAAS club member Barry Shupp on November 16, 2007.

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The **Arthur Storer Planetarium** is named after America's first colonial astronomer. Arthur Storer (1648 - 1686), an orphan, was a childhood friend of Sir Isaac Newton. They lived together and went to the same schools. They both had a passion for mathematics and astronomy. Storer came to the Maryland Colony in 1678 with his sister, who was an apothecary, to start an herb farm on the very tract of land that is now the site of the planetarium. Storer loved observing the night sky and had a zeal for comets. Armed only with an astrolabe, he was among the first observers to sight and record data about a magnificent comet that passed over Patuxent skies in 1682. His detailed observations of the comet were very helpful to Newton, who quoted Storer's data repeatedly in his great scientific work *Principia*. Storer's work shows up in a number of Newton's writings. The comet became known as Storer's Comet, until Edmund Halley later predicted the comet's return; thereafter this celestial marvel was known as Halley's Comet.

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Sighting Dates for Storer's (Halley's) Comet : 1682, 1759, 1835, 1910, 1986, 2062

The planetarium bearing Storer's name is located in Prince Frederick, Maryland:

<http://www.calvertnet.k12.md.us/schools/planetarium/storer/html>.

Storer's Comet

At about dawn on August 14, 1682 looking westward over the Patuxent, Arthur Storer apparently saw what is now known as Halley's Comet. The comet stayed visible in the area until September 18, 1682.

Storer's observations of the comet are considered to be the most accurate of his contemporaries (including Edmund Halley) with the exception of the Royal Observatory in Greenwich.

In 1680, Storer described his discovery by saying: "It was a very great amazement . . . to see a longbright stream in form like a sword streaming from the horizon about 30 degrees in altitude . . . so nearly after sunset."

http://en.wikipedia.org/wiki/Arthur_Storer

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NASA News Release

Tabatha Thompson
Headquarters, Washington
202-358-3895
tabatha.thompson-1@nasa.gov

Katherine K. Martin
Glenn Research Center, Cleveland
216-433-2406
katherine.k.martin@nasa.gov

NASA to spend a possible \$25.4 million on microgravity research!

Jan. 2, 2008
CONTRACT RELEASE : C08-001
NASA Awards Contract for Microgravity Aircraft Services

CLEVELAND - NASA has awarded a contract to Zero Gravity Corporation of Las Vegas to manage and operate an aircraft to perform reduced gravity parabolic flights while carrying NASA-operated experiments and personnel.

The parabolic flights will provide the means to replicate the reduced gravity environment of space for various areas of research needed to further NASA's understanding of space travel. These include aeronautical research, fluid physics, combustion, material sciences and life sciences.

Additionally, work done during these flights will assist engineers in developing NASA's Crew Exploration Vehicle, as well as contribute to improved flights for astronauts on the space shuttle and the International Space Station. The aircraft will fly primarily out of NASA's Johnson Space Center in Houston, and NASA's Glenn Research Center in Cleveland.

The contract's one-year base period, valued at \$4.7 million, began on Jan. 1. Four one-year options could add just over \$5 million per year to the fixed price, indefinite delivery, indefinite quantity contract total. These options could extend the period of performance to a total of five years, for an estimated \$25.4 million.

For more information on NASA and its programs, visit: <http://www.nasa.gov>.



Want to get a young friend or family member involved in the fun and exciting world of astronomy, but don't know how to go about it?

Why not visit the KidsAstronomy.com website together and try some of the neat activities they've got on their page?

Puzzles, word games, coloring books, jokes, movies, video games, postcards and more!

There's something there to interest every child, so introduce astronomy to your nieces, nephews, kids and grand-kids.

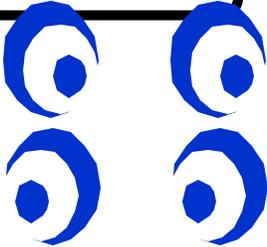
Visit KidsAstronomy.com and expand their horizons!

Berks County Amateur Astronomical Society

c/o Linda Sensenig
345 Douglass Street
Wyomissing, PA 19610

Hotline: 610-921-0173
Call us for all the
latest event details!

Visit us today at
[www.
berksastronomy.org!](http://www.berksastronomy.org)



2008 Events Calendar

Thursday, January 10th at 7:30pm
BCAAS General Meeting at Reading Museum
Holiday Party and Annual Elections Tonight!
Please bring a dish to share!

Wednesday, January 30th
Possible asteroid collision with Mars
Stay tuned for more details!

Thursday, February 14th at 7:30pm
Club meeting at Reading Museum, TBA.
*Remember, fellas, this is ***Valentine's Day!****



Wednesday, February 20th
Total Lunar Eclipse begins 8:43pm,
totality from 10:01pm—10:51pm,
eclipse ends 12:09am.

Thursday, March 13th at 7:30pm
Club meeting at Reading Museum, TBA.

Monday, March 17th
Happy St. Patrick's Day!

Thursday, March 20th
Vernal Equinox

Sunday, March 23rd
Happy Easter!

