

## Upcoming Events

**Board of Directors Meeting**  
July 3<sup>rd</sup> at the Cumberland  
Valley Girl Scout Council  
Building

**Private Star Party** July 5<sup>th</sup> at  
the mm 435.5 parking lot  
on the Natchez Trace  
Parkway – 8:00 pm

**Public Star Party** July 12<sup>th</sup> at  
Longhunter State Park –  
8:00 pm

**Membership Meeting** July  
17<sup>th</sup> at the Adventure  
Science Center – 7:30 pm

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## July Membership Meeting

Thursday, July 17, 2008  
Adventure Science Center  
7:30 PM



BSAS president Terry Reeves will host a "What's Up?" tour of observing highlights for the summer season. If there is a target you would like to be included, send an email to [terry.reeves@comcast.net](mailto:terry.reeves@comcast.net).

Afterwards, an opening forum will be held to solicit opinions and ideas regarding the future of the Tennessee Star Party.

## From The President

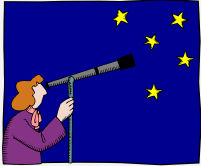


OK, the new Sudekum Planetarium is awesome! I want to personally thank Kris McCall, Theo Wellington, and Drew Gilmore for this last month's presentation. They have done an incredible job putting all of that together. I have never seen a star field displayed so well inside a dome. I am tempted to bring my binoculars next time just to bust the Milky Way apart some. That star projector combined with the multimedia capabilities really does promise to be a wonderful tool for teaching Astronomy.

I would like to recommend an article I just read in the August issue of Sky and Telescope to everyone. (The article starts on page 26.) It describes why the view from my backyard (and quite likely yours) can be so poor. Evidently, sulfur dioxide high in the atmosphere reacts with water to form aerosols. The size of these aerosols is such that they scatter visible light. According to the article, these aerosols are responsible for as much as 50% to 75% of the washing out of the night sky. To make matters worse, light pollution from the ground is also scattered back toward the ground which explains why I get this pink glow to the north. Evidently, the Tennessee and Ohio River valleys experience the worst of it. There is some hope for us as stronger EPA regulations start to kick in over the next several years.

Our program for July is another "What's Up". If you have a favorite target, send me an e-mail at [terry.reeves@comcast.net](mailto:terry.reeves@comcast.net). We just might put it in. After the presentation, we will have a short period where the Board would like to solicit your opinions and ideas on the future of the Tennessee Star Party. As you are aware, the Board elected to not hold the Tennessee Star Party this year. In years past, it has been used as a fund raiser for the club, but in the last few years, it has not performed well. In addition, the large amount of work required to run the star party drains the energies of some of our most active members for very little gain. We really cannot continue to do the star party as we have in the past without a major commitment of support from a much larger part of the membership of the club. Among the alternatives are: 1) renewing our support to what we have done in the past, 2) changing the form of the star party to something that does not require the same workload or financial risk to the club, and 3) ceasing to hold the star party completely. There may be other alternatives that I have not mentioned.

Terry Reeves  
President



*"Mortal as I am, I know  
that I am born for a day.*

*But when I follow at my  
pleasure the serried  
multitude of the stars in  
their circular course, my  
feet no longer touch the  
earth".*

*Ptolemy, c. 150 AD*

## Observing Highlights

all times listed are Central Standard Time

### July 1—31, 2008

7/2	NEW MOON
7/3	BSAS Board of Directors Meeting 7:30pm at Girl Scout Office
7/5	Private Star Party – mm 435.5 Natchez Trace Parkway – 8:00 pm
7/6	Mars 3° north of Moon Saturn 3° north of Moon
7/10	FIRST QUARTER
7/12	Public Star Party – Longhunter State Park – 8:00 pm
7/18	FULL MOON
7/17	BSAS Membership Meeting 7:30 pm at ASC
7/25	LAST QUARTER
7/26	Delta Aquarid Meteor Shower – radiant in Aquarius (S) – 20/hr (7/26 through 7/28)

### August 1—31, 2008

8/1	NEW MOON
8/2	BSAS Annual Picnic – Spot Observatory
8/3	Saturn 4° North of Moon
8/4	Mars 4° North of Regulus
8/5	Venus 1.1° North of Moon
8/7	BSAS Board of Directors Mtg., 7:30pm at Girl Scout Office
8/8	FIRST QUARTER
8/9	Public Star Party – Warner Park – 8:00p
8/10	Mercury 1.1° North of Regulus Antares 0.4° North of Moon, Occultation
8/12	Perseid Meteor Shower
8/16	FULL MOON
8/21	BSAS Membership Meeting 7:30 pm at ASC
8/23	LAST QUARTER
8/30	NEW MOON

## Outreach Update *Terry Reeves, President*

Last month was a light month for us. We only had a private star party on the Trace and the (totally awesome) monthly membership meeting.

Coming up in July, we have a private star party scheduled for Saturday night, July 5 at the rest area at mile marker 435.5 on the Natchez Trace. This is the first rest stop on the left as you go south on the Trace from the intersection of Highway 96 and the Trace. There is a public star party on July 12 at Long Hunter State Park. The moon will be just past first quarter, so we will be focusing on the moon. We will also catch what we can of Saturn and Jupiter. On August 2, we have the BSAS picnic at Mark Manner's home (aka Spot Observatory).

There is also another public star party at Warner Park on August 9. Jupiter should be better for this one. Of course, as usual, these plans are dependent upon the weather.

## FREE TELESCOPES!

Yes, you did read that correctly. The BSAS Equipment & Facilities Committee has free telescopes ranging in size from 2.6" to 8" that current members can actually have to use for up to 60 days at a time. We also have some other items in the loaner program such as a photometer, H-alpha solar telescope, educational CDs, tapes, DVDs, and books. Some restrictions apply, and a waiting list may be applicable in some cases. The BSAS Equipment Committee will not be held responsible for lost sleep or other problems arising from use of this excellent astronomy gear.

For information on what equipment is currently available, contact Lonnie Puterbaugh at (615) 661-9540.

## Happy Birthday Sir George Biddell Airy by Robin Byrne

This month we celebrate the life of an astronomer whose name has lived on due to a controversy. George Biddell Airy was born in Alnwick, England July 27, 1801. His father, trying to escape his agricultural past, worked at various jobs, resulting in the family moving a number of times. Airy attended elementary schools in both Hereford and Colchester. Although shy, he made friends due to his ability to construct peashooters.

In 1819, Airy entered Trinity College in Cambridge. To pay for college, he worked as a sizar, which was essentially a servant. He graduated in 1823 after receiving many honors for his scholastic achievements, and received a position at the college. Suffering from astigmatism, in 1825 Airy designed and made the first pair of glasses designed to correct for this condition. The following year, he was appointed Lucasian professor of mathematics. That same year, he was appointed to the Board of Longitude.

In 1824, while on a walking tour of Derbyshire, Airy met Richarda Smith. Two days later, Airy proposed. Her father, however, felt Airy's financial situation was not stable enough for his daughter to marry. In 1828, Airy was named Pulman professor of astronomy and Cambridge Observatory director. With an improved financial situation, Airy and Richarda married March 24, 1830. Over the years, the couple had 9 children, although their first three died in childhood.

While at Cambridge Observatory, Airy instituted many improvements, including: annual publication of transit observations, installation of a mural circle, and construction of a 12" refractor. His research during this time was also varied. Airy studied the diffraction of light by a lens, and a theoretical study of the formation of a rainbow. In the solar system, he made a measurement of the mass of Jupiter, and studied errors in the computed orbits of Earth and Venus. His work on the orbits of Earth and Venus earned him a Gold Medal from the Royal Astronomical Society. In 1834, after a fire destroyed England's standards for length and weight, Airy was appointed as chair of a commission to construct new ones.

In 1835, Airy was named Astronomer Royal and began working at Greenwich Observatory. As he did at Cambridge Observatory, Airy went to work making improvements. He organized the volumes of data and observations in the library, began a new observatory to measure Earth's magnetic field, erected an altazimuth telescope for studying the Moon, installed a new transit circle and a new 13" telescope, and instigated spectroscopic studies of stars plus photographic observations of sunspots. In 1851, Airy established a new Prime Meridian (from which longitude is measured) at Greenwich. This was the fourth time a Prime Meridian had been established, but it was also the last, and is still the standard used today. In 1854, Airy attempted to measure the mean density of Earth, by measuring the difference in gravitational force on the surface of Earth and deep in a mine. Using pendulums, Airy measured their period of oscillation, and used that value to determine the force of gravity at the two locations. Although an ingenious

technique, the density value he got was higher than the accepted value. In 1872, Airy was knighted. He had declined the honor three previous times on the grounds that he couldn't afford the fees. Airy remained in the position of Astronomer Royal for a total of 46 years, until his retirement in 1881.

It was while Astronomer Royal that the most infamous event in Airy's career occurred. John Couch Adams had approached Airy with calculations and a prediction for a planet beyond the orbit of Uranus. Many versions of what happened next have been put forward. It appears that Adams tried twice to contact Airy in person, only to be sent away (once Airy was out of town and the second time he was dining). Adams left his work for Airy to review. Airy sent word to Adams with some questions, to which Adams never responded. So Airy did not act on Adams' calculations, Urbain Leverrier independently got similar results and sent them to Germany, where Johanne Galle became the first person to observe the planet Neptune. Should Airy have interrupted his dinner to meet with Adams? At the time, Airy was inundated with many unannounced guests, his wife was pregnant, and he was a witness in a murder trial. For all of those reasons, he refused to see anyone without prior notice. Adams claims to have left notice of his intended visit, but Airy never got it. The controversy continues to ruffle a lot of feathers.

After retiring, Airy moved in with two of his daughters. In 1891, he was severely hurt after a fall. Due to internal injuries, Airy underwent surgery, but died 2 days later on January 2, 1892 at the age of 90. George Airy is still a controversial figure in the story of Neptune's discovery. Whether his inaction or Adams' behavior are to blame, or whether they should share some of the guilt, they are inextricably tied to the story of Neptune and England's failure to discover the 8th planet. However, Airy's other contributions to astronomy are still valued, and his name has been immortalized with the naming of craters on both the Moon and Mars. Within Airy crater on Mars is a smaller crater named Airy-0, and it is used as the Prime Meridian on that planet. Whether on Earth or Mars, your location East-West is defined by this month's honoree - Sir George Biddell Airy.

#### References:

George Biddell Airy - Wikipedia, the free encyclopedia  
[http://en.wikipedia.org/wiki/George\\_Biddell\\_Airy](http://en.wikipedia.org/wiki/George_Biddell_Airy)

George Biddell Airy by J J O'Connor and E F Robertson  
 MacTutor History of Mathematics  
<http://www-history.mcs.st-andrews.ac.uk/Biographies/Airy.html>

George Airy, Astronomer Royal, Villain or not? by Brian Daugherty  
<http://bdaugherty.tripod.com/astronomy/airy.html>

## June 2008 Board of Directors Minutes

*Bob Rice, Secretary*

No business was transacted at the June 2008 Board of Directors meeting as only four members were present which did not constitute a quorum.

## June 2008 Monthly Meeting Minutes

*Bob Rice, Secretary*

President Terry Reeves called the meeting to order at 7:52 P.M. on June 19, 2008 in the Adventure Science Center (ASC) and welcomed new members and guests. Treasurer Randy Smith reported that the Society's bank balance was \$1,383.79. Mr. Smith reminded the membership that he would personally handle the reduced payment for subscriptions (a benefit of BSAS membership) to Astronomy Magazine, but that similar reduced subscriptions to Sky & Telescope Magazine should be made directly to the publisher via their website. Dr. Reeves then asked for corrections to the minutes of the last membership meeting held on May 15, 2008 and, there being none, called for a motion to accept them as published in the June 2008 edition of the Eclipse newsletter. Bill Griswold so moved and Randy Smith seconded his motion that subsequently passed by a unanimous voice vote.

Dr. Terry Reeves reminded attendees about these upcoming star parties and events: (1) a private star party to be held on July 5 at the mile marker 35.5 site on the Natchez Trace Parkway; (2) the BSAS Club Picnic to be held on August 2 at Mark Manner's Spot Observatory; and (3) a public star party to be held on August 9 at the Warner Parks.

In response to a question from the audience, Membership Chairman Bill Griswold reported that the BSAS currently had 95 members. Chuck Schlemm announced that tomorrow night (Friday, June 16) the Full Moon Pickin' Party would be held at the Warner Parks and, in addition to the live Bluegrass music, would also feature views through a six inch telescope. John Green stated that he had a problem getting the Eclipse and other club email. Dr. Reeves replied that this was typically caused by spam filter settings from the Internet service provider and could be changed by the user. Since there were no further items for discussion, President Reeves declared the business portion of the meeting to be adjourned at 8:02 P.M.

The attendees then relocated to the new Sudekum Planetarium for a preview of that facility before the official public opening on June 28. Dr. Terry Reeves introduced Planetarium Director Kris McCall who provided technical details while the audience looked on in amazement at the state-of-the-art accommodations and equipment. Sporting a 63-foot domed screen and controlled by 13 computers, the new planetarium utilizes integrated optical-mechanical and digital projection systems that can display 6.5 million stars in high resolution from horizon to horizon. Ms. McCall and Drew Gilmore then demonstrated these features by first showing constellation outlines, planetary images and motions, and deep space projections followed by two commercially supplied "trailers" with jaw-dropping video and surround sound. She then described the full-length feature "Stars" – narrated by Star Wars actor Mark Hamill – that will be the first program shown in the new planetarium. Following the planetarium presentation, attendees were free to leisurely walk around the adjoining 30 space-related exhibits in the Space Chase area. With names like "Moon Walk," "EVA Experience," and "MicroG Chairs" along with the Earth, Sun, Moon and deep-space displays, the mostly adult group sounded surprisingly child-like as they took in everything with unabated fascination.

The BSAS sincerely thanks Kris and Drew for a truly special evening.

### OFFICERS

**Dr. Terry Reeves**  
*President*

**Keith Burneson**  
*Vice-President*

**Bob Rice**  
*Secretary*

**Randy Smith**  
*Treasurer*

**Bill Griswold**  
*Past President*

*Directors at Large*

**Dr. Spencer Buckner**  
**Tony Campbell**  
**Jana Ruth Ford**  
**Dr. Donna Hummel**  
**Theo Wellington**  
**Steve Wheeler**  
**Kris McCall** (*ex officio*)

**Steve Wheeler**  
*Newsletter Editor*  
[wsw261@hotmail.com](mailto:wsw261@hotmail.com)

**Monthly meetings  
are held at:**



**The Adventure  
Science Center**

**800 Fort Negley Blvd  
Nashville, TN 37203**

*Member Contributions*

NGC 2244 – The Rosette Nebula  
12 x 5 min  
Steve Wheeler

Steve writes:

"I was desperate to get an image of the Rosette Nebula, but the weather just did not cooperate when the object was well placed in the sky. When a clear night finally came, it was much lower on the horizon than I'd like plus I had to shoot back over a neighbor's house.

I had intended to get a full two hours worth of data, but was only able to get about an hour as it slipped out of view. I ended up with enough sub-frames to create the above image. With auto-guiding, I was able to get 5 minute sub-frames – this is the longest exposure I have yet to achieve."

Image Details:

Date:	04/06/2008
Location:	Franklin, TN
Mount:	Orion Atlas EQ-G
Camera:	Canon Digital Rebel XT (350D unmodified)
Filters:	IDAS LPS Filter
Imaging OTA:	Stellarvue SV102ED
Guiding OTA/Camera:	Astronomy Technologies AT66ED/Meade DSI Pro II
Camera Control:	Nebulosity (Stark Labs)
Guiding:	PHD Guiding (Stark Labs)
Processing:	Nebulosity (data reduction, align-combine-color balance) Photoshop CS2 (curves, levels, noise reduction)

See more of Steve's images at <http://sgto.home.comcast.net> .

*BSAS members – submit your astrophotography for inclusion in next month's Eclipse to [wsw261@hotmail.com](mailto:wsw261@hotmail.com) . Please include image details along with your submission.*

**Become a Member of the BSAS!**

Download and print the Application for membership from [www.bsasnashville.com](http://www.bsasnashville.com) (Adobe® Acrobat Reader® required).

Then fill it out and bring it to the next monthly meeting or mail it along with your first year's membership dues to:

BSAS  
P.O. Box 150713  
Nashville, TN 37215-0713

Annual dues, which include membership in the BSAS and Astronomical League, and subscriptions to their newsletters, are:

- \$20** Individual
- \$30** Family
- \$15** Senior (+65)
- \$25** Senior Family (+65)
- \$15** Student\*

\* To qualify, you must be 21 or younger & enrolled in an accredited institution.

All memberships have a vote in BSAS elections and other membership votes,

Also included are subscriptions to the BSAS and Astronomical League newsletters.

**IMPORTANT DUES INFORMATION**

On your Eclipse mailing label is the expiration date for your current membership. There will be a two month grace period before any member's name is removed from the current mailing list.



**We're on the Web!**  
*See us at:*  
[www.bsasnashville.com](http://www.bsasnashville.com)

# About Our Organization

Organized in 1928, the Barnard-Seyfert Astronomical Society is an association of amateur and professional astronomers who have joined to share our knowledge and our love of the sky.

The BSAS meets on the third Thursday of each month at the Adventure Science Center in Nashville. Experienced members or guest speakers talk about some aspect of astronomy or observing. Subjects range from how the universe first formed to how to build your own telescope. The meetings are informal and time is allotted for fellowship. You do not have to be a member to attend the meetings.

Membership entitles you to subscriptions to Astronomy and Sky & Telescope at reduced rates; the club's newsletter, the ECLIPSE, is sent to members monthly. BSAS members also receive membership in the Astronomical League, receiving their quarterly newsletter, the Reflector, discounts on all astronomical books, and many other benefits. In addition to the meetings,

BSAS also sponsors many public events, such as star parties and Astronomy Day; we go into the schools on occasion to hold star parties for the children and their parents. Often the public star parties are centered on a special astronomical event, such as a lunar eclipse or a planetary opposition.

Most information about BSAS and our activities may be found at [www.bsasnashville.com](http://www.bsasnashville.com). If you need more information, write to us at [info@bsasnashville.com](mailto:info@bsasnashville.com) or call Joe Boyd at (615) 386-3134.

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