

The newsletter of the Barnard Seyfert Astronomical Society, PO Box 150713, Nashville, TN 37215-0713

## Upcoming Events

### Board of Directors Meeting

September 3<sup>rd</sup> at the  
Cumberland Valley Girl Scout  
Council Building – 7:30 pm

October 1<sup>st</sup> at the Cumberland  
Valley Girl Scout Council Building  
– 7:30 pm

### Membership Meeting

September 17<sup>th</sup> at the Adventure  
Science Center – 7:30 pm

October 15<sup>th</sup> at the Adventure  
Science Center – 7:30 pm

## Upcoming Events

Private Astronomy Retreat  
September 18-19<sup>th</sup> at Spot  
Observatory – see our web site  
<http://www.bsasnashville.com> for  
details

Private Star Party October 17<sup>th</sup> at  
the Natchez Trace Water Valley  
Overlook site (mm 412) – 7:30 pm

Public Star Party October 24<sup>th</sup> at  
Long Hunter State Park – 8:00 pm

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## Monthly Membership Meeting

September 17<sup>th</sup>, 2009  
Adventure Science Center  
7:30 pm



Our guest this month is Vanderbilt astronomer Dr Joshua Pepper who will be discussing **Exoplanetary Exploration and KELT**. For some background information visit the link below.

<http://www.vanderbilt.edu/AnS/physics/vida/exoplanets.htm>

See you there!



## From The President

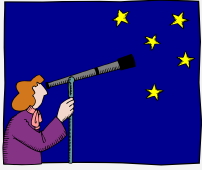
Well, it is now September. Schools have already started. The days just keep on coming. At this rate, Christmas is just around the corner. But, before we get there, we have September and October. Most years, they are the best months we have for viewing. The air dries out. Transparency improves. Jupiter is spectacular. Mars rises around midnight. The fall constellations are coming into view. Don't forget to take your telescope out and enjoy.

Did you happen to catch the two days that pictures from Cassini of Saturn's rings that appeared on the Astronomy Photo of the Day web site, <http://apod.nasa.gov/apod/>. Look in the archives for August 25 and September 1. They are both absolutely stunning. With Saturn near its equinox, we are able to see unusual effects that we won't have a chance to see for another 15 years.

I want to thank Randy Smith for his presentation on "Free Astronomy Software" at the August membership meeting. He showed some programs and web sites that I had not heard of before. It was great to learn of these free resources.

Our program in September is being presented by Dr. Joshua Pepper from Vanderbilt University. He will be presenting his work on "Exoplanetary Research and KELT (Kilodegree Extremely Little Telescope)". He presented his work to a group of us last summer at Dyer Observatory, and I look forward to hearing an update. It promises to be a very interesting talk. Please plan to be there.

Dr. Terry Reeves  
President



*My hope is that they will look back and say, "Wow, we really learned a lot from building and operating this space station and we could have never done what we're going to do in the future if we hadn't done this space station program, you know. It was a key stepping stone to the moon and Mars and other planets some day."*

**Fredrick W. "Rick" Sturckow**  
Commander – STS-128  
(1961- )

### 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.

## Observing Highlights

all times listed are Central Standard Time

### LUNAR PHASES

#### September 2009

09/04 FULL Moon  
09/12 LAST Quarter  
09/18 NEW Moon  
09/26 FIRST Quarter

#### October 2009

10/04 FULL Moon  
10/11 LAST Quarter  
10/18 NEW Moon  
10/25 FIRST Quarter

### OBJECTS VISIBLE THIS MONTH

#### Messier Objects:

##### *Globular Clusters:*

M13, M14, M22, M28, M54, M69, M70, M92

#### Caldwell Objects:

C15 Blinking Nebula  
C20 North American Nebula  
C27 Crescent Nebula  
C33-34 Veil Nebula Complex

## Outreach Update *Dr. Terry Reeves, president*

August was a good month for the club's public star parties. The star party at Warner Park was well attended by both the club and the public. While I could have wished that the clouds would have moved out like the forecast had indicated, it was still a nice evening and there were plenty of targets to show. By the way, we have been using the new special events field for a year now. There was also a public event held at Bells Bend Park on the west side of town. While it wasn't an official club event, it was also well attended by club members. About 170 people came that night. It has better skies than any of our current public star party sites. I will be definitely talking to the Board about adding it to our list of places to hold star parties. We currently do not have any public events planned for September. There is a public star party planned for Saturday night, October 24, at Long Hunter State Park.

The private star party we had scheduled for August at the Water Valley Overlook didn't work out. According to the forecast, the clouds there were supposed to move out. It did not happen. A few of us showed up, but we finally gave up after determining that it simply was not meant to be.

As I write this, we are still taking commitments for the Astronomy Retreat. We will determine if we have enough people to go forward with the event in the next few days. Please check the club web site, <http://www.bsasnashville.com> for more information. We have a private star party planned for Saturday, October 17, at the Water Valley Overlook on the Natchez Trace. This is near mile marker 412.

Dr. Terry Reeves  
President

# Happy Birthday William Cranch Bond

by Robin Byrne

This month we celebrate the life of one of America's first astronomers. On September 9, 1789, William Cranch Bond was born in Falmouth, District of Maine, Massachusetts (what is now known as Portland, Maine). His father had started as a silversmith, but was unsuccessful. He then found his calling as a clockmaker, and soon taught his son the family business. William built his first watch when he was only 15 years old. He ultimately took over the family business, and became quite successful as an expert clockmaker. Many of his clocks and watches were exported or used on ships to aid in navigation.

When William was 17 years old, in 1806, he observed a solar eclipse. This sparked an interest in astronomy that would last a lifetime. When he built his first house, in Dorchester, he designed the parlor with an opening in the ceiling, so that it could be used as an observatory. Among Bond's earliest work were the discoveries of comets, including the Great Comet of 1811.

Because of the reputation he established from his comet discoveries, in 1815 Harvard University commissioned Bond to travel to Europe. His job was to visit several observatories and get information that could be used in the construction of an observatory at Harvard.

In 1819, on July 18, William Cranch Bond married his first cousin, Selina Cranch. Together, they had four sons and two daughters. One of the sons, George Phillips Bond, would follow his father into the field of astronomy. After Selina died, in 1831, William married her sister, Mary Roope Cranch. The phrase "all in the family" keeps coming to mind.

In 1838, Bond's reputation got him a brief job with the United States government. He was commissioned to make astronomical and meteorological observations to aid in an expedition to the South Sea. The following year, Harvard University founded their observatory, even though an observatory hadn't actually been built. Instead, they had Bond move his personal equipment onto campus, set up an "observatory" in a house he lived in, and be the school's unpaid Astronomical Observer to the University.

What had prevented Harvard from anything more official was money. That changed in 1843, when a sun-grazing comet sparked public interest in astronomy, and allowed the school to raise over \$25,000 to be used to build and equip an observatory. The design of the building and observing chair were developed by Bond. Harvard purchased a 15-inch refractor, which was equal in size to the largest refractor in existence at that time. By 1847, the observatory was complete, and William Cranch Bond was named as its first director.

On June 24, 1847, the 15-inch telescope saw first light with a view of the Moon (that had to be blinding). Over the years, Bond used this telescope to study a variety of objects, from sunspots to the Orion Nebula to Saturn. By this time, Bond's son, George, was an astronomer in his own right and worked with his father in the observatory. In 1848, the two Bonds discovered the 8th known moon of Saturn, Hyperion.

William Lassell had independently discovered this moon almost simultaneously as the Bonds, so all three are credited with its discovery. The following year, Bond was honored for his astronomical work by becoming the first American elected to the Royal Astronomical Society. In 1850, the Bonds, continuing to study Saturn, discovered what is now known as the Crepe Ring.

One of the innovations the Bonds brought to astronomy was the implementation of photography. In July 1850, with the aid of Massachusetts General Hospital photographer J. A. Whipple, the Bonds obtained the first Daguerreotype of a star. A 100 second exposure produced an image of Vega. They also produced the first Daguerreotype of the Moon. Over the years, the Bonds produced between 200 and 300 photographic plates of the Moon, stars and planets. In 1857, they created the first clear photographic print of the Moon.

Another innovation the Bonds introduced was the development of a chronograph to use with a telescope. Here Bond's clockmaking and astronomy were combined. The chronograph was attached to the telescope to help measure the position of the star being observed. Bond also pioneered the use of two pieces of technology, a chronometer and a telegraph, to aid in the determination of a locations' longitude.

On January 29, 1859, William Cranch Bond died in Cambridge, Massachusetts. His son, George, took over the reins as Harvard Observatory director upon his death. Many astronomical objects have been named for Bond (or for both Bond and his son), including a crater on the Moon, a region on the moon Hyperion, a gap in Saturn's C Ring, and an asteroid.

William Cranch Bond's story is typical of early astronomy. Someone with an interest in astronomy, but no formal training, goes on to become a successful and admired professional astronomer. His background in clockmaking and his mechanical skills aided in the use and design of equipment, but it was Bond's observing skills that brought him recognition. The field of astronomy has changed tremendously since the time of William Cranch Bond, but the opportunities for amateur astronomers to make a contribution are still available, especially in the area of variable stars, but in other fields, as well. We can look at the life of William Cranch Bond as an inspiration to amateur astronomers everywhere, and take home the lesson that being able to observe the night sky clearly and accurately can lead anyone to a position of recognition.

References:  
William Cranch Bond - Wikipedia  
[http://en.wikipedia.org/wiki/William\\_Cranch\\_Bond](http://en.wikipedia.org/wiki/William_Cranch_Bond)

William Cranch Bond (1798-1859)  
<http://messier.obspm.fr/xtra/Bios/wcbond.html>

William Cranch Bond (American astronomer) -- Britannica Online Encyclopedia

William Cranch Bond  
<http://www.famousamericans.net/williamcranchbond/>

"William Cranch Bond." The Columbia Encyclopedia, Sixth Edition. 2008. Encyclopedia.com. 30 Jul. 2009 <<http://www.encyclopedia.com>>

## August 2009 Board Meeting Minutes

*Bob Rice, Secretary*

The board of directors of the Barnard-Seyfert Astronomical Society met in regular session at the Cumberland Valley Girl Scout Council Building in Nashville, Tennessee on August 6, 2009. Board members Dr. Spencer Buckner, Bill Griswold, JanaRuth Ford, Bob Norling, Kris McCall, Dr. Terry Reeves, Bob Rice, and Theo Wellington were present. Board members Tony Campbell, Dr. Donna Hummell, Curt Porter, and Steve Wheeler were absent. BSAS member Joe Boyd also attended. A quorum being present, President Dr. Terry Reeves called the meeting to order at 7:37 P.M.

Treasurer Bob Norling reported that the BSAS had \$1,954.47 in its checking account and \$150.00 in its equipment account. Dr. Terry Reeves reported these upcoming membership meeting programs:

Aug 20 – “Free Astronomy Software” by Randy Smith

Sept 17 – “Exoplanetary Exploration and KELT” by Vanderbilt astronomer Dr. Joshua Pepper

Oct 15 – “What’s Up in the Evening Sky” by Dr. Terry Reeves (and possibly others)

Nov 19 – “Selecting Astronomy Christmas Toys” by Dr. Spencer Buckner

Dec 17 – BSAS Annual Potluck Holiday Dinner

Dr. Reeves suggested that having copies of the free software web addresses would be useful as handouts for the August program. Kris McCall said that the Adventure Science Center (ASC) could make copies for that purpose. Bob Rice said that he would contact Dr. Joshua Pepper to get additional biographical and program information for advance public notice regarding the September program. Dr. Terry Reeves reported these upcoming star parties and other events:

Aug 15 – Public star party at the Warner Parks from 8:30 to 10:30 P.M.

Aug 22 – Private star party at Water Valley Overlook on the Natchez Trace Parkway

Sep 18/19 – BSAS members only astronomy retreat at Spot Observatory

Oct 24 – Public star party at Long Hunter State Park from 8:00 to 10.00 P.M.

Kris Mc Call thanked the BSAS members who supplied telescopes for the public star party at Long Hunter State Park on July 25 noting that 160 people showed up despite the intermittent clouds. Dr. Terry Reeves suggested that the board start working now on a schedule of activities for 2010 to allow ample time to apply for a permit to use the observing sites off the Natchez Trace Parkway. Dr. Reeves also suggested that the club form a nominating committee to recommend candidates for 2010 officer and director positions. Dr. Spencer Buckner, Bill Griswold, and Bob Norling volunteered to serve on this committee.

Bill Griswold expressed his concern about the BSAS membership having fallen to 69. The board discussed several possible causes including the current economic recession, members forgetting when their memberships expire, and members’ Internet service providers using spam filters that inadvertently block BSAS mailings and attachments. Bill Griswold suggested that, to avoid at least some spam blocking, current editions of the Eclipse newsletter be sent out as PDF email attachments with older editions being made available through links on the BSAS website. Dr. Spencer Buckner suggested telling the membership about this proposed action at the August 20 meeting. Bill Griswold volunteered to do three things in an attempt to improve membership retention: (1) continue to mail the Eclipse newsletter, (2) keep the membership records up to date, and (3) email members a month before their memberships expire. Kris McCall moved that Mr. Griswold be authorized to do this and Dr. Spencer Buckner seconded her motion that subsequently passed by a unanimous voice vote.

Bob Norling stated that the BSAS should encourage local TV weather personalities to join and Dr. Spencer Buckner suggested that offering them free memberships might be a worthwhile approach. JanaRuth Ford stated that she still had International Year of Astronomy (IYA) buttons, bookmarks, and online survey forms available. She gave survey forms to the board and said that she would hand out additional copies at the Warner Parks public star party on August 15. Kris McCall told the board that the ASC had IYA Galileo telescopes available in its gift shop for \$25.00. She also told the board to keep an eye out for the December 2009 issue of Sky & Telescope magazine that would presumably contain an undisclosed article of considerable local interest.

Joe Boyd reported on his and his wife Mary’s recent visit to Metro Nashville’s recently opened Bells Bend Park located off the Ashland City Highway. Mr. Boyd stated that Park officials had expressed an interest in holding star parties there and since Bells Bend was to be a dedicated “green space preservation area” it could potentially be a good dark sky location. Dr. Terry Reeves said that a star party was tentatively scheduled to be held there on August 21 to see how things worked out. There being no further business to discuss, Dr. Terry Reeves called for a motion to adjourn the meeting. Bob Norling so moved, Bill Griswold seconded his motion that passed by a unanimous voice vote, and the meeting was adjourned at 8:55 P.M.

### OFFICERS

*Dr. Terry Reeves*  
President

*Dr. Spencer Buckner*  
Vice-President

*Bob Rice*  
Secretary

*Bob Norling*  
Treasurer

### Directors at Large

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

*Steve Wheeler*  
Newsletter Editor  
*wsw261@hotmail.com*

*Monthly meetings  
are held at:*



*The Adventure  
Science Center*

*800 Fort Negley Blvd  
Nashville, TN 37203*

## August 2009 Monthly Meeting Minutes

*Bob Rice, Secretary*

President Dr. Terry Reeves called the meeting to order at 7:35 P.M. in the Adventure Science Center (ASC) and welcomed new members and guests. Treasurer Bob Norling reported that the BSAS' bank balance was \$1,954.47 in the general account and \$150.00 in the donations account. Dr. Reeves reminded the audience about these upcoming events:

- August 21 – Public star party at Bells Bend Park
- August 22 – Private star party at the Water Valley Overlook off of Natchez Trace Parkway
- September 17 – Membership meeting program on “Exoplanetary Exploration and KELT” by Dr. Joshua Pepper
- September 18/19 – Private astronomy retreat for BSAS members at Spot Observatory

A member announced that the Bays Mountain Astronomy Club was holding their StarFest 2009 on October 24 & 25 and that the West Kentucky Amateur Astronomers was holding their Twin Lakes Star Party on October 10-18. Kris McCall announced that she had “goodies” left over from the recent Planetarium Association meeting along with back issues of Air and Space magazines that were all available for free to those who wanted them. She also announced that the ASC had International Year of Astronomy Galileoscopes available in its gift shop for \$27.21. Joe Boyd announced that Metro Nashville's new Bells Bend Park where the August 21 public star party was being held appeared to be a good dark sky site and that BSAS members bringing telescopes to that event could stay after the public left. Mike Benson announced that the 2010 Astronomical League Convention would be held in Phoenix, Arizona. Bill Griswold reported that he had sent 115 emails to individuals whose BSAS memberships were past due and had received 11 responses.

Dr. Terry Reeves introduced BSAS member Randy Smith who delivered the evening's program on “Free Astronomy Software” that can be downloaded from the Internet. Mr. Smith divided the available software into five categories: Charting, Observing, Presentation, Information, and Logging. Those in the charting category included Cartes du Ciel, Touring the Universe Through Binoculars Atlas (TUBA), and Virtual Moon. Software in the observing category included Clear Sky Clock, Sky Maps, and What's Up, Doc? along with the Sudekum Planetarium's monthly star charts available on the ASC's website. Presentation software included Celestia, The Celestia Motherlode, and Stellarium. Software in the information category included those involving bright comets, satellites, minor planets, and space weather. Software in the astronomy-logging category included TSOL, a simple observing log, and TMOL, a Messier objects log. Mr. Smith also provided a printed handout detailing all of the names and website addresses.

Since there was no further business to discuss, President Reeves declared the meeting to be adjourned at 8:40 P.M.

### BSAS Affiliations

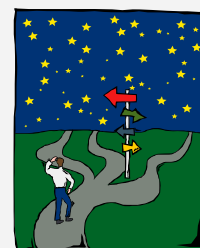
*The Astronomical League*  
<http://www.astroleague.org/>



*The Night Sky Network*  
<http://nightsky.jpl.nasa.gov/>



*International Dark Sky Association*  
<http://www.darksky.org/>



**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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ASTRONOMICAL SOCIETY**  
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