

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

Upcoming Events

Board of Directors Meeting

January 7th at the Cumberland Valley Girl Scout Council Building – 7:30 pm

February 4th at the Cumberland Valley Girl Scout Council Building – 7:30 pm

Membership Meeting

January 21st at the Adventure Science Center – 7:30 pm

February 18th at the Adventure Science Center – 7:30 pm

Star Parties

Private Star Party January 16th at Natchez Trace mm 435.5

Public Star Party January 23rd at Warner Park – 7:30 pm

Private Star Party February 13th at Natchez Trace mm 435.5

Public Star Party February 20th at Shelby Bottoms – 7:30 pm

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Monthly Membership Meeting

January 21, 2010
Adventure Science Center
7:30 pm



Did you receive a new astronomy toy for Christmas? Are you unsure how to set it up or use it? Join Dr. Spencer Buckner and other BSAS members for an informative session on **"I Got a New Astronomy Toy for Christmas - Now What?"**

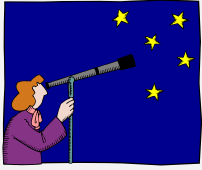


From The President

Greetings and Happy New Year from the new BSAS president. Having served as the vice-president for the last year, I look forward to serving as your president in the coming year. We have an excellent group of individuals serving as officers and board members this year. Our new vice-president is Donna Hummell who has been on the board of directors for a number of years. Bob Rice is once again serving as secretary, continuing to break all records for longest serving officer. Bob Norling continues on for a second year as our treasurer. We have two new board members: Santos Lopez and Bill Griswold. Bill was the previous past-president and will stay on as a new board member. Santos is returning to the board after a nearly two decade absence (he served in the early 1990's) and we are glad to have him back. Terry Reeves is the immediate past-president and we have four returning board members: Tony Campbell, Jana Ruth Ford, Curt Porter and Theo Wellington. Finally, Kris McCall, director of the Sudekum Planetarium, serves as an ex-officio board member and coordinator of most of our public star parties. Although not on the board (he stepped down to allow Bill Griswold to serve), Steve Wheeler is probably the hardest working member, serving as our newsletter editor. Having served as the newsletter editor for the much smaller Clarksville Astronomy Club for a number of years I know what a task it is putting together the monthly newsletter and I am extremely grateful that Steve has agreed to be the BSAS editor again.

The program committee has put together a fascinating list of programs for the coming year. We begin the year with "I Got A New Astronomy Toy For Christmas. Now What?" The idea of this program is for you to bring your new astronomy toy and we, as a club, will try to help you figure out how to best use it. Members and guests are strongly encouraged to bring their new telescope, accessory or gadget. I will MC the evening's activities but I intend to keep the lecture short. Terry Reeves and Steve Wheeler will be doing a number of "What's Up" programs through the year and Kris McCall has volunteered to do a planetarium program (or two) for us. We have a number of other programs that are still in the arranging stage but one that I have my strongest hopes for is a possible talk by the new director of the Dyer Observatory. Since Vanderbilt hasn't hired the new director yet, this one is defiantly in the "still to be arranged" stage but I have hopes we will have something set up by late fall. We will end the year as we have for the past few years with "All I Want For Christmas Are Astronomy Toys" in November and our Christmas pot-luck supper in December.

(continued on page 2)



"In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual."

Galileo Galilei
1564-1642

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

January 2010

01/07 LAST Quarter
01/15 NEW Moon
01/23 FIRST Quarter
01/30 FULL Moon

February 2010

02/05 LAST Quarter
02/14 NEW Moon
02/22 FIRST Quarter
0/28 FULL Moon

OBJECTS VISIBLE THIS MONTH

Messier Objects:

Galaxies:

M31, M32, M33, M74, M77, M110

Open Clusters:

M34, M52, M103

Planetary Nebula:

M76

President's Message *(continued from page 1)*

I was enthralled by Charlie Warren's talk on his excursion to Australia at the December meeting. It really made me want to visit the "Down Under", now if I can only come up with the price of the ticket and the time to make the trip. I also want to thank Bob Rice for all the hard work he did making arrangements for the pot luck supper. The meat was excellent and we will have utensils for several years to come. And, of course, I want to thank everyone for all the wonderful food they brought. It was all delicious, I only wish I could have sampled everything but there was just too much to choose from.

As the new president, I have a few ideas and initiatives I plan to bring before the board and members in the coming months. I hope to try a few new things to increase meeting attendance and membership. Since I also serve as the treasurer for the Clarksville Astronomy Club, I would like to try to forge stronger relations with other middle Tennessee astronomy clubs. Perhaps joint programs and/or star parties or maybe just visits to other local club meetings by a group representing the BSAS. If we visit with them, maybe some of them will come visit us. I am looking forward to an exciting year with the Barnard Seyfert Astronomical Society.

Dr. Spencer Buckner
President

Happy Birthday Galilean Satellites

by Robin Byrne

This month we participate in celebrating a discovery that has been commemorated for the past year. Galileo Galilei is often mistakenly given credit for inventing the telescope. He did not. However, what Galileo did do was improve the telescope and put it to a variety of new uses. Between 1609 and 1610, Galileo made a variety of improvements to the telescope, including increasing the effective magnitude to, possibly, as high as 30x. Being entrepreneurial, Galileo made a pitch to the Prince of Venice to use telescopes to guard his shores from approaching hostile ships, or for use in land battles to better determine the military strength of the enemy's armies. At the same time, Galileo was inspired to peer at the heavens through one of his telescopes. This provided a more detailed view than had ever been seen before. It was his telescopic views of the skies that changed our ideas of how the heavens are arranged.

It was the evening of January 7, 1610 that Galileo pointed his telescope to look at Jupiter. As he gazed at the bright planet, he noticed 3 stars near Jupiter. What made the stars seem unusual was the fact that they were all in a line parallel to the ecliptic. The following night, they were all west of Jupiter, which would have been in the wrong place if they were stars; plus they were closer to each other than on the previous night. On January 13, a fourth star appeared. Galileo continued to observe Jupiter and its entourage for two more months. By this time, he was certain that what he was observing were not stars at all, but four moons orbiting Jupiter. Galileo published this discovery in March of 1610 in his book, *Siderius Nuncius*. This observation was revolutionary (pun intended), for it discredited the geocentric idea that all objects orbit Earth. Here was a case of four objects orbiting Jupiter.

After Galileo published his observations, others came forward to claim the discovery for themselves. Most notable was Simon Marius, who claimed to have spied the moons five weeks before Galileo's observation. Since Marius did not publish this discovery, there is no way to know for sure. Since Galileo published first, and since his observations were extensive, he gets the credit. Meanwhile, one Chinese historian of astronomy, Xi Zelong, claims that an ancient Chinese astronomer, Gan De, recorded the observation of one of the moons in 362 BC. However, it is not clear whether he recognized that it orbited Jupiter, or merely saw it in the sky next to Jupiter.

Once the existence of the moons was established, the next task at hand was to name them. Galileo immediately thought of Cosimo de' Medici, who he tutored in mathematics five years earlier. Medici was now Grand Duke Cosimo II of Tuscany, and Galileo was eager to be in his good graces. Galileo wrote a letter to the Duke's secretary, requesting permission to name the moons, either, the "Cosmian Stars" or the "Medician Stars." The secretary preferred the latter name, which would honor all four of the Medici brothers, rather than singling out just one of them. Galileo quickly complied. He also sent to the Grand Duke a dedicatory letter, the telescope used to make the discovery, plus a copy of *Siderius Nuncius*. The individual moons Galileo referred to by Roman numerals I, II, III, IV in

order from closest to Jupiter to farthest. This system was used for more than two centuries, until discoveries of moons closer in to Jupiter made the system problematic.

Simon Marius and Johannes Kepler are responsible for the names we use today. Kepler suggested that they be named for the four great loves of Jupiter. In 1614, Marius published this suggestion in his book, *Mundus Jovialis*. Galileo refused to acknowledge Marius' suggestion and continued to use his numbering system. The names we use today are: Io, Europa, Ganymede, and Callisto. However, in honor of Galileo's discovery, they are known collectively as the Galilean Satellites.

In addition to the moons of Jupiter, Galileo also published observations of craters on the Moon, spots on the Sun, and Venus going through phases like the Moon. All of these discoveries proved the power of the telescope over mere naked eye observations. Additionally, they were the observational evidence needed to convince scientists of the validity of Copernicus' heliocentric (Sun-centered) model of the solar system over Ptolemy's geocentric (Earth-centered) model. Although not immediately embraced, Galileo's observations were key for the transition to take place.

This past year, we have been celebrating the International Year of Astronomy (IYA), which was specifically established to honor the discoveries of Galileo Galilei and the use of the telescope. The moons of Jupiter was one such discovery. Jupiter is sinking low in the west. Before it leaves our evening sky, take a moment to peer at Jupiter's beautiful disk and those four pinpoint of light that escort it through the night. While you're gazing at this wonderful sight, think of Galileo and how he must have felt, 400 years ago, seeing them for the very first time.

References:

Discovery of the Galilean Satellites By Ron Baalke
<http://www2.jpl.nasa.gov/galileo/ganymede/discovery.html>

Galilean moons - Wikipedia
http://en.wikipedia.org/wiki/Galilean_moons

Board Meeting Minutes - December 3, 2009

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 December 3, 2009. Board members Dr. Spencer Buckner, Tony Campbell, Bill Griswold, Dr. Donna Hummell, Kris McCall, Bob Norling, Curt Porter, Dr. Terry Reeves, Bob Rice, Theo Wellington, and Steve Wheeler were present as was 2010 board member-elect Santos Lopez. Board member JanaRuth Ford was absent. A quorum being present, President Dr. Terry Reeves called the meeting to order at 7:33 P.M.

Treasurer Bob Norling reported that the BSAS' finances were unchanged from last month with \$2,361.52 in its checking account and \$150.00 in its equipment account. Bill Griswold informed the board that it cost an additional \$1.26 per copy to print and mail paper editions of the Eclipse newsletter as opposed to electronic editions sent via the Internet. He additionally explained that only 10 members (approximately 14% of the membership) were now receiving paper copies. Mr. Griswold moved that, to defray this additional expense, a \$15.00 annual surcharge be applied to each new membership or old membership renewal choosing to receive a paper edition of the Eclipse. Tony Campbell seconded this motion and, following some discussion, it passed by a unanimous voice vote of the board. Tony Campbell then moved that the surcharge be considered for a waiver on a case-by-case basis for those on whom it might impose an undue hardship. Spence Buckner seconded this motion that passed by a unanimous voice vote without additional discussion.

Dr. Terry Reeves reported that about thirty persons showed up for the public star party at Shelby Bottoms Park on November 21 and explained that the low turnout was most likely due to the threat of bad weather immediately preceding this event even though conditions surprisingly improved later on. He also noted that there were no signs identifying or showing the way to the star party. Theo Wellington suggested that perhaps Shelby Bottoms could acquire some "star party this way" signs like the Warner Parks used. Kris McCall noted that this might be difficult considering the budgetary constraints that the Metro parks were undergoing. Santos Lopez said that he would investigate the possibility of his employer's graphics department being able to create some inexpensive wire type signs that the BSAS could use at any location where it was putting on a star party.

Dr. Terry Reeves announced these upcoming December star parties: Dec 12 – Public star party at the Warner Parks, Dec 18 – Public star party at Bells Bend Park, and Dec 19 – Private star party at the Water Valley Overlook on the Natchez Trace Parkway

Dr. Reeves stated that the dates and times for January 2010 star parties were posted on the BSAS' website. Bill Griswold reported that he had sent in the required forms to the National Park Service for the BSAS to again use the two Natchez Trace Parkway observing sites.

Dr. Terry Reeves reminded the board that the December 17 membership meeting would begin an hour earlier than usual at 6:30 P.M. and would include the annual holiday potluck dinner with the club providing the entrees, drinks, and eating utensils and individual members bringing the side dishes. Dr. Reeves also reported that there would be an ongoing silent auction along a program by Amateur Astronomy magazine editor Charlie Warren on his recent observing trip to Australia. Bob Rice noted that he had emailed a reminder to Mr. Warren. Dr. Reeves announced that Dr. Spencer Buckner would present a program at the January 21, 2010 membership meeting on "How To Use Your New Astronomy Christmas Toys." Dr. Buckner stated that those attending should be encouraged to bring their new astronomy equipment to the meeting. Dr. Reeves also announced that the February 18, 2010 membership-meeting program would be another of the popular "What's Up" sessions by Steve Wheeler and possibly another presenter.

Santos Lopez suggested that the Society might consider a future program to scientifically refute the end of the world plot based on the Mayan calendar that was causing so much public excitement in the new movie "2012". Mr. Lopez offered to discuss the "Mayan factor" at such a program. Dr. Spencer Buckner commented that the Program Committee was meeting next week and noted that a program of that sort might be considered for late 2010.

Dr. Terry Reeves welcomed board member-elect Santos Lopez and noted that all members but one of the new 2010 board were present tonight. Curt Porter said that he would bring and hand out the member nametags at the December membership meeting. Dr. Terry Reeves reported that the BSAS' domain name was now registered for the next twenty years. He also commented that the BSAS' web hosting service was being purchased monthly, but that changing this to an annual or longer term would be explored.

Since there was no further business to be discussed, President Dr. Reeves asked for a motion to adjourn the meeting. Bill Griswold so moved, Tony Campbell seconded his motion, and the meeting was adjourned at 8:33 P.M. by a unanimous voice vote.

OFFICERS

Dr. Spencer Buckner
President

Dr. Terry Reeves
Past President
(Ex Officio)

Dr. Donna Hummell
Vice-President

Bob Rice
Secretary

Bob Norling
Treasurer

Directors at Large

Tony Campbell
Jana Ruth Ford
Bill Griswold
Santos Lopez
Curt Porter
Theo Wellington
Kris McCall (Ex Officio)

*Monthly meetings
are held on the
third Thursday
of each month at:*



*The Adventure
Science Center*

*800 Fort Negley Blvd
Nashville, TN 37203*

Monthly Meeting Minutes - December 17, 2009

Bob Rice, Secretary

BSAS members gathered in the Adventure Science Center (ASC) around 6:30 PM for the Society's annual Christmas potluck supper and related activities. Dining soon began with the Society providing the main course of sliced ham and turkey along with eating utensils, plates, and soft drinks. Members provided a variety of their favorite side dishes including salads, casseroles, and desserts. The silent auction was repeated again this year with members examining the donated books and other items throughout the evening to look and record their bids.

President Dr. Terry Reeves called the group to order at 7:30 PM. for a brief business meeting and to welcome everyone. Treasurer Bob Norling reported that the BSAS had \$1,964.20 in its regular bank account and \$150.00 in its equipment account. Dr. Reeves announced that copies of the Observer's Handbook 2010 were available for sale but that the 2010 Deep Space Mysteries Calendars had not come in yet. Dr. Reeves announced these upcoming star parties:

- Dec 18 – Public star party at Bells Bend Park
- Dec 19 – Private star party at the Water Valley Overlook on the Natchez Trace Parkway

He also noted that, unfortunately, the weather forecast was not promising for these events. Dr. Reeves announced that Dr. Spencer Buckner would lead the January 21, 2010 program on "How To Use Your New Astronomy Christmas Toys" explaining that this would be more of a hands-on event for attendees who brought their new telescopes than a formal lecture. Curt Porter announced that membership badges were available in the back of the room and that members could take them home. Dr. Reeves commented that Amateur Astronomy magazine, edited by the evening's speaker, Charlie Warren, contained material that was not available in other astronomy related magazines. Next, asking President-Elect Dr. Spencer Buckner to come forward, Dr. Reeves then presented him with the ceremonial floppy rubber gavel to continue the tradition begun in December 2006 by then-out-going President Mark Manner.

Dr. Terry Reeves introduced BSAS member Charlie Warren who delivered the evening's program on "The Deepest South Texas Star Safari" that described his recent trip to Coonabarabran, New South Wales in Australia. Often described as "the astronomy capitol of Australia," Coonabarabran is the gateway to the Warrumbungle National Park and the Pilliga Forrest in addition to being the closest town to the 3.9 meter Anglo-Australian Telescope. Mr. Warren described and showed photos of some of the plentiful indigenous wildlife including a Koala bear sleeping in a tree and a somewhat aggressive Dingo wild dog. Mr. Warren highly praised the group of Australian amateur astronomers who served as "star guides" and provided telescopes for observing – all of which were equipped with Nagler eyepieces. He noted that the largest of the instruments were a 22-inch binocular scope and a 30-inch reflector.

Mr. Warren also described meeting famed Australian comet hunter Rob McNaught and getting to tour his observatory. He described some of his favorite observing highlights as being the Southern Cross, Omega Centauri, Eta Carinae, 47 Tucani, and the Large Magellanic Cloud. Mr. Warren commented how nice it was to see so many constellations and objects high up in the sky (although upside down) rather than being low on the horizon as we are used to seeing them from the northern hemisphere. However, he did point out that we were lucky to have the Big Dipper and Polaris for conveniently finding our celestial pole as opposed to using the more troublesome Southern Cross. Following his presentation, Mr. Warren graciously answered questions from the audience.

Dr. Terry Reeves adjourned the formal portion of the meeting around 8:58 P.M. as members lingering to renew conversations and to exchange good-byes and best wishes for the holidays.

For more information on Charlie's publication *Amateur Astronomy Magazine*, visit <http://www.amateurastronomy.com>.

Editor

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 (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

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. If you need more information, write to us at info@bsasnashville.com or call Joe Boyd at (615) 386-3134.

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