

Upcoming Events

Board of Directors Meeting

December 2nd at the
Cumberland Valley Girl Scout
Council Building – 7:30 pm

January 6th, 2011 at the
Cumberland Valley Girl Scout
Council Building – 7:30 pm

Membership Meeting

December 16th at the Adventure
Science Center – 7:30 pm

January 20th, 2011 at the
Adventure Science Center – 7:30
pm

Star Parties

December 4th – BSAS Private Star
Party at Natchez Trace mile
marker 435.5.

December 11th – BSAS Public Star
Party at Edwin Warner Park 7:30 –
9:30 pm

December 21st – Public Lunar
Eclipse Star Party at the
Adventure Science Center
12 midnight - 2:30 am

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Annual Christmas Potluck Dinner & Silent Auction

Thursday, December 16, 2010
Adventure Science Center
6:30 pm



Join us for our annual Christmas Potluck Dinner and Silent Auction. Our guest speaker will be **Charlie Warren**, editor of *Amateur Astronomy* magazine.



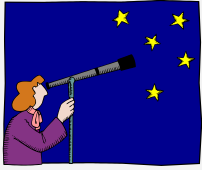
From The President

Greetings from your BSAS president. I began last month's president's message with a word about the Indian summer we were experiencing in early November. Well, the December deep freeze is on us this month and memories of the warmth are long gone. The official beginning of winter isn't until December 21 but someone forgot to tell Old Man Winter as he arrived in the first week of December with a vengeance.

Normally I would thank the speaker at last month's public meeting but since that was me, I'll thank everyone for coming to the meeting instead. We had a room full of people and I had a number of questions about what telescope to buy after the talk ended so I guess it was a success. I always enjoy my November talk on astronomy toys and I always manage to bring too much stuff. Kris McCall kept joking about how most people buy pickup trucks to haul building supplies or plants and manure for the garden but I bought mine to haul telescopes. The funny thing is it isn't a joke: that was one of the prime considerations I had in mind when I bought the truck. I don't always fill it with five telescopes, usually just one or two, but telescopes are the most common cargo I haul. At least I haven't gone overboard and outfitted an entire van for astronomy (I'm just joking, Lonnie, you do a great service to the region with TAC).

Speaking of hauling telescopes around, we have a couple of upcoming star parties I would like to mention. The first is at the Warner Park model airplane field on Saturday December 11 beginning at 7:30pm. If you are bringing your telescope you want to arrive early to get set-up before the public arrives. The second star party is a special event in the wee hours of the morning on Tuesday December 21. The Adventure Science Center will be hosting a Lunar Eclipse party from 12:00 to 2:30am with hot chocolate, coffee and access to warm restrooms. They will also be putting on a special Dark Side of the Moon laser show at 12:45am. Everyone will be out of school by the 21st so take the day off work and come out to enjoy the total lunar eclipse. The next total lunar eclipse visible in Nashville won't be until tax day (April 15) 2014 and it will be in the wee hours of the morning as well.

Continued on Page 2



"For every one, as I think, must see that astronomy compels the soul to look upwards and leads us from this world to another."

Glaucon (brother of Plato)
445 – 399 BC

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

December 2010

12/05 NEW Moon
12/13 FIRST Quarter
12/21 FULL Moon
12/28 LAST Quarter

January 2011

01/04 NEW Moon
01/12 FIRST Quarter
01/19 FULL Moon
01/26 LAST Quarter

OBJECTS VISIBLE THIS MONTH

Messier Objects:

Globular Clusters:
M2, M15

Star Clusters:
M29, M39, M52

Galaxies:
M31, M32, M110

December 13-14: Geminid Meteor Shower

December 21 – Lunar Eclipse
Partial eclipse begins: 12:33 am CST
Total eclipse begins: 1:41 am
Total eclipse ends: 2:53 am
Partial eclipse ends: 4:01 am

From the President, cont.

This month's meeting on the 16th is our annual pot luck dinner and silent auction. BSAS supplies the meat, drinks and utensils and everyone is encouraged to bring a side dish or dessert. The silent auction depends on donations from members so if you have an old astronomy book or an eyepiece or whatever that you don't use any more, consider donating it to the silent auction. As I said at the November meeting, since we and everything around us are all made of star stuff, everything is astronomy related so whatever it is, it is perfect for the silent auction. Our speaker will once again be Charlie Warren. Charlie's talk at the pot luck dinner meeting has become a tradition and he always has a great one. I am looking forward to his presentation this year.

Finally, I want to thank the members for electing me to another term as president of the Barnard-Seyfert Astronomical Society. I have enjoyed serving for the last year and look forward to serving for another one. The other officers, Dr. Donna Hummel (vice-president), Bob Norling (treasurer) and Bob Rice (secretary) have done a wonderful job this year along with all the board members. I want to congratulate them all for being chosen to serve another term in their respective office. The BSAS relies on the time and efforts donated by the members of the board of directors, officers and club members to keep running smoothly. Without them, the club could not function. Thanks to all of you for the work you do for the club.

Dr. Spencer Buckner
President

Book Review: *The Planets*

by Robin Byrne

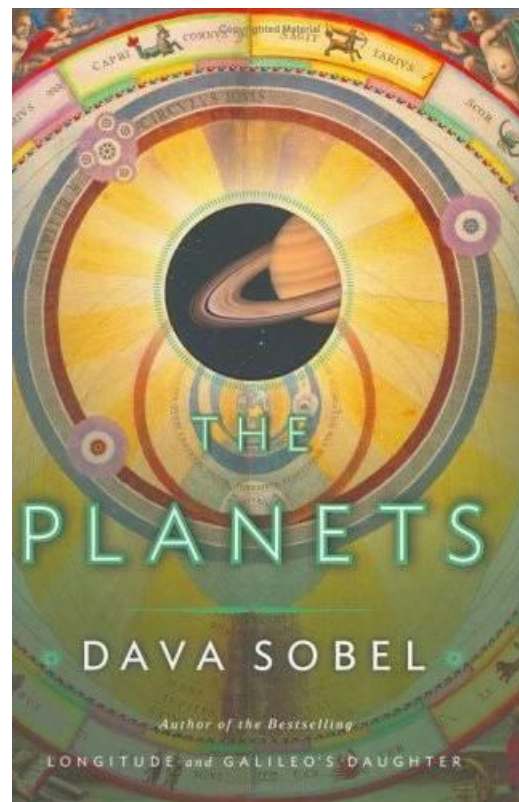
When Dava Sobel agreed to be the main speaker at the 2010 Southeastern Planetarium Association (SEPA) Conference, I was thrilled. I loved "Galileo's Daughter" and was enthralled by the television production of "Longitude." However, when I heard that she wrote a book about the planets, my first reaction was "Do I want to read a book that will likely repeat what I already know about the planets? Not really." Then I won the book as a door prize at the SEPA Conference...

I am happy to say that my initial expectations were wrong. Yes, the book does include information I already knew about the planets, but that isn't what the book is entirely about. As usual, Dava Sobel makes the story of a scientific topic a human journey that includes so much more. Each chapter is about a different planet, plus Earth's moon and the Sun. But each solar system object is approached in an entirely different, and entertaining way.

The chapter about the Sun is titled "Genesis" and includes a variety of versions, including the scientific one, of how our solar system formed. Mercury provides an opportunity to explore the mythology of the planets. Beautiful Venus shows us the role of planets in art. The exploration and mapping of Earth provide the backdrop for our home world. Man's exploration of the Moon takes us to our celestial neighbor. Mars allows us to venture into the realm of science fiction. Dava Sobel doesn't even shy away from that taboo topic, astrology, when discussing Jupiter. Saturn provides the venue to discuss musical expressions of the planets. Uranus and Neptune take us into the lives of the people responsible for their discoveries. And even Pluto, despite Sobel's participation in its reclassification to dwarf planet, is included, and the story of its descent from predicted planet, to discovery, to scientific study, to demotion, as well as, the discovery of other planet candidates, is completely outlined.

In addition to the variety of approaches taken with each solar system object, Sobel includes her own personal stories, sharing her connection to our solar system. These personal experiences add another dimension to the story of the planets, making it even richer and more enjoyable.

The wide variety of approaches, the personal stories, and, yes, even the science that most of us already know, take us on a journey through our solar system that goes beyond a planet tour, and into a whole new way of thinking about our celestial neighborhood, perhaps even sparking the reader to add their own stories to the tapestry. "The Planets" by Dava Sobel will not disappoint.



The Planets

By Dava Sobel
Penguin Books Ltd, 2005

Board Meeting Minutes – November 4, 2010

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 November 4, 2010. A sign-in sheet was passed around in lieu of a roll call. Board members Dr. Spenser Buckner, Jana Ruth Ford, Bill Griswold, Dr. Donna Hummell, Santos Lopez, Kris McCall, Bob Norling, Curt Porter, and Bob Rice were present. Board members Tony Campbell, Dr. Terry Reeves, and Theo Wellington were absent. Past-President Joe Boyd also attended as a guest. A quorum being present, President Dr. Spenser Buckner called the meeting to order at 7:37 P.M.

Treasurer Bob Norling reported that the BSAS had \$2,144.01 in its regular checking account and \$166.30 in its equipment account. Dr. Spenser Buckner announced these upcoming star parties and events:

- Nov 06 - Private Annual BSAS Retreat at Past-President Mark Manner's Spot Observatory. Bring your own food & drink & arrive mid to late afternoon.
- Nov 13 - Public star party at Shelby Bottoms Nature Center from 7:30 to 9:30 P.M.
- Dec 04 - Private star party at Natchez Trace Parkway mile marker 435.5.
- Dec 11 - Public star party at the Warner Parks from 7:30 to 9:30 P.M.

Dr. Buckner announced that he would repeat his popular "All I Want For Christmas Are Astronomy Toys" presentation at the November 18 membership meeting. He stated that the annual election of BSAS officers and board members would be held during the business meeting before his presentation. Bob Rice said that he would have write-in ballots available to accommodate nominations from the floor. Dr. Buckner also announced that the BSAS would have its annual Christmas Potluck Dinner and Silent Auction at the December 16 membership meeting. He noted that the BSAS would again supply the meat, drinks, and utensils while the members would bring potluck side dishes of their choice. Kris McCall suggested announcing the Silent Auction in the Eclipse newsletter as a reminder for members to bring items. Bob Rice confirmed that Amateur Astronomy magazine editor Charlie Warren would speak on a yet-to-be-determined topic at the Dinner. Mr. Rice also volunteered to procure the meats, drinks, and utensils for the meal. Santos Lopez suggested that members might label their dishes to identify any contents such as peanuts, wheat, eggs, or other substances to which some people might be allergic.

Santos Lopez suggested that, since studies indicated the younger generation of people that the BSAS wished to attract as members were more attuned to communication via the newer social media rather than the more traditional forms, establishing Facebook and Twitter sites might benefit the Society. Dr. Spenser Buckner noted that there would be no charge to establish or operate these two sites. Following additional discussion Bob Norling moved that the BSAS set up Facebook and Twitter sites and Curt Porter seconded his motion that subsequently passed by a unanimous voice vote. Mr. Lopez said that he would proceed with establishing these sites. Kris McCall commented that in using these public sites the BSAS should omit references to any private club-related activities.

Santos Lopez suggested that the BSAS might also consider using PayPal as a more convenient way for members to join and renew their memberships. Bob Rice recounted several difficulties that the BSAS had with timely deposits from PayPal during a prior Tennessee Star Party. Dr. Spenser Buckner also noted that using PayPal was not free. However, all present agreed that these were not insurmountable issues and Santos Lopez volunteered to further research this possibility.

Joe Boyd, as Chairman of the ad hoc Bylaws Committee, reported that this committee had met and accomplished these tasks: (1) established a more manageable copy of the bylaws in a word processing format, (2) identified several changes that were not reflected in the bylaws as posted on the BSAS' website, (3) begun a section by section review of the bylaws for future changes to be recommended to the board, and (4) decided to draft a resolution regarding the terms "designated office" and "registered office" for the board's consideration. Bob Norling suggested that this committee also consider the issue of identifying a Registered Agent for Service and Process as required by state law.

The board then discussed creating a Memorandum Of Understanding (MOU) between the BSAS and the Adventure Science Center (ASC) due to the ASC's recent notice that it would begin charging the Society \$20.00 per month for using its facilities that had heretofore been provided for free. The board again agreed that this proposed charge was a rather nominal amount for having access to a facility like the ASC. However, all agreed with Kris McCall's statement that both parties would benefit from having a more formal written understanding as opposed to just a verbal "gentlemen's agreement." Santos Lopez asked if the proposed \$20.00 fee represented a rental charge and Ms McCall responded that she understood that it was for wear and tear on the ASC's equipment. Curt Porter agreed to chair a committee to oversee composing a draft MOU and stated that he could obtain a copy of such a document between a non-profit organization and another party that could be used as a guide. Joe Boyd and Bob Rice offered to assist him.

Since there was no further business to discuss, Dr. Spenser Buckner declared the meeting to be adjourned at 8:38 P.M.

OFFICERS

Dr. Spenser Buckner
President

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*)

Steve Wheeler
Newsletter Editor
wsw261@hotmail.com

**Monthly meetings
are held at:**



**The Adventure
Science Center**

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

Monthly Meeting Minutes – November 18, 2010

Bob Rice, Secretary

President Dr. Spencer Buckner called the meeting to order at 7:42 P.M. in the Adventure Science Center (ASC) and welcomed members and visitors. Treasurer Bob Norling reported that the BSAS had \$2,414.01 in its regular bank account and \$166.30 in its equipment account. Dr. Buckner reminded members that they could order copies of the Royal Astronomical Society of Canada's 2011 Observer's Guide and Guy Ottewill's 2011 Astronomical Calendar from Treasurer Bob Norling at a discount from the published price. He also noted that copies of Kalmbach Publishing Company's 2011 Deep Space Mysteries calendar could be purchased at a discount without a pre-order.

Dr. Buckner announced these upcoming star parties:

- Dec 04 - Private star party at Natchez Trace Parkway mile marker 435.5 starting about sundown.
- Dec 11 - Public star party at the Warner Parks from 7:30 - 9:30 P.M.

Dr. Buckner announced that the BSAS would have its annual Christmas Potluck Dinner and Silent Auction at the December 16 membership meeting. He noted that the BSAS would again supply the meat, drinks, and utensils while the members would bring potluck side dishes of their choice. Dr. Buckner also announced that Amateur Astronomy magazine editor Charlie Warren would speak on a yet-to-be-announced topic. Kris McCall encouraged members to bring items to the Silent Auction - even non-astronomy related items. Dr. Buckner joked that since we and our surroundings originated from "star-stuff," everything was really astronomy related!

President Dr. Spencer Buckner commenced the annual election of BSAS officers and directors for 2011 by announcing these candidates recommended by the Nominating Committee: President - Dr. Spencer Buckner; Vice-President - Dr. Donna Hummell; Secretary - Bob Rice; Treasurer - Bob Norling; and board members at large - Steve Cobb and Theo Wellington. He then asked for nominations from the floor and, there being none, Kris McCall moved that the recommended slate of candidates be accepted by acclamation. Bill Griswold seconded her motion that was then approved by a unanimous voice vote of the attending members. The newly elected officers and directors will formally assume their duties at the December 16, 2010 membership meeting.

Kris McCall sadly announced the death of former BSAS member and talented pen and ink artist Warren Kirbo. Ms McCall also announced that for administrative reasons and potential conflicts with other scheduled area events the ASC would observe the upcoming international Astronomy Day on April 9, 2011 instead of on the more widely adopted date of May 7, 2011. She noted that this chosen date was within three days of both the 25th anniversary of the first space shuttle launch on April 12, 1981 and the 50th anniversary of the first manned space flight by Russian Cosmonaut Yuri Gagarin on April 12, 1961. In addition, Ms McCall stated that the ASC was trying to obtain the new planetarium program "Dawn of the Space Age" along with related exhibits for presentation to the public. Mike Benson asked for a clarification of the starting time for the December 16 Christmas Potluck Dinner and Dr. Buckner pointed out that it would begin an hour earlier at 6:30 P.M. instead of the usual 7:30 P.M. for membership meetings.

Dr. Spencer Buckner began the evening's program on "All I Want For Christmas Are Astronomy Toys" by explaining that his interest in developing concise overviews of astronomy equipment and related gadgets began several years ago while he was in Minnesota. So armed with a wide array of telescopes, mounts, accessories, and reference materials that he had brought, Dr. Buckner used a PowerPoint presentation to illustrate these items of interest and corresponding prices wherever possible to potential new buyers:

- Basic types of telescopes - refractors, reflectors, & catadioptric,
- Types of mounts - altazimuth & equatorial,
- Dobsonian mounts (usually equipped with Newtonian reflector scopes) as a special type of altazimuth mount,
- "Push-to" dobsonian mounts as an object locator type,
- "Go-To" mounts - both altazimuth (including dobsonians) and equatorial,
- Accessories - eyepieces, finder scopes, & red lights,
- Filters - solar, lunar, color, & sky glow
- Dew heaters, observing chairs & stools, & tables,
- Cases & storage bags,
- Power sources - batteries, ac adaptors, & dc-to-ac inverters,
- Maps, planispheres, & planetarium software,
- New computerized sky pointers & identifiers & apps for smart phones,
- Red & white light flashlights,
- Optics cleaning kits,
- Magazines, calendars, books, reference materials, and
- List of recommended dealers and manufacturers.

Dr. Buckner then graciously answered questions from the audience following his presentation.

Since there was no additional business to discuss, President Buckner declared the membership meeting to be adjourned at 8:46 P.M. However, attendees were invited to remain for a personal examination of the demonstrated equipment and to ask questions of Dr. Buckner or other BSAS members if they wished to do so.

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/>



Blue Rings around Red Galaxies

Space Place Partners Article, November 2010

By Trudy E. Bell and Dr. Tony Phillips

Beautiful flat rings around the planet Saturn are one thing—but flat rings around entire galaxies? That is the astonishing discovery that two astronomers, Samir Salim of Indiana University at Bloomington and R. Michael Rich of UCLA described in the May 10, 2010, issue of *The Astrophysical Journal Letters*.

"For most of the twentieth century, astronomers observing at visible wavelengths saw that galaxies looked either 'red and dead' or 'blue and new,'" explained Salim. Reddish galaxies were featureless, shaped mostly like balls or lentils; bluish ones were magnificent spirals or irregular galaxies.

Elliptical galaxies looked red, astronomers reasoned, because they had mostly old red giant stars near the end of their life cycles, and little gas from which new stars could form. Spiral and irregular galaxies looked blue, however, because they were rich in gas and dust that were active nurseries birthing hot, massive, bluish stars.

At least, that's how galaxies appear in visible light. As early as the 1970s, though, the first space-borne telescopes sensitive to ultraviolet radiation (UV) revealed something mysterious: a few red elliptical galaxies emitted "a surprising ultraviolet excess," said Rich. The observations suggested that some old red galaxies might not be as "dead" as previously supposed.

To investigate, Salim and Rich used NASA's Galaxy Evolution Explorer satellite to identify 30 red elliptical galaxies that also emitted the strongest UV. Then they captured a long, detailed picture of each galaxy using the Hubble Space Telescope.

"Hubble revealed the answer," says Salim. The UV radiation was emitted by enormous, flat bluish rings that completely surrounded each reddish galaxy, reminiscent of the rings of Saturn. In some cases, the bluish rings even showed a faint spiral structure!

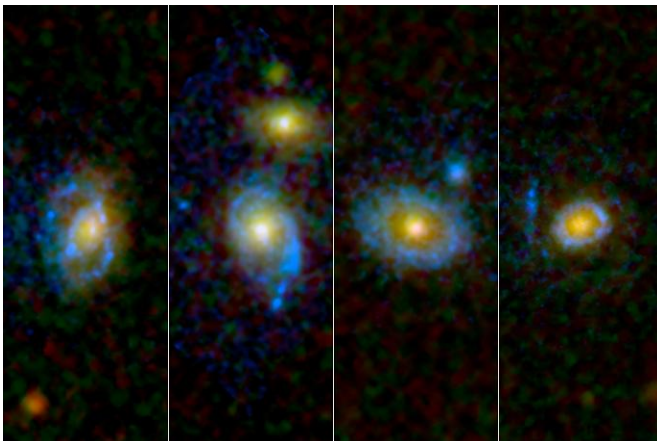
Because the bluish UV rings looked like star-forming spiral arms and lay mostly beyond the red stars at the centers of the elliptical galaxies "we concluded that the bluish rings must be made of hot young stars," Salim continued. "But if new stars are still being formed, that means the red-and-dead galaxies must have acquired some new gas to make them."

How does a galaxy "acquire some gas?" Salim speculates that it was an act of theft. Sometimes galaxies have close encounters. If a gas-rich irregular galaxy passed close to a gas-poor elliptical galaxy, the gravity of the elliptical galaxy could steal some gas.

Further studies by Galaxy Evolution Explorer, Hubble and other telescopes are expected to reveal more about the process. One thing is certain, says Rich: "The evolution of galaxies is even more surprising and beautiful than we imagined." The press release is available at <http://www.galex.caltech.edu/newsroom/glx2010-03f.html>. The full published article is "Star Formation Signatures in Optically Quiescent Early-Type Galaxies" by Samir Salim and R. Michael Rich, *The Astrophysical Journal Letters* 714: L290–L294, 2010 May 10.

Point the kids to the Photon Pile-up Game at <http://spaceplace.nasa.gov/en/kids/galex/photon>, where they can have fun learning about the particle nature of light.

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



The Galaxy Evolution Explorer UV space telescope helped to identify red elliptical galaxies that also emitted the strongest UV.

These are detailed, long-exposure Hubble Space Telescope images of four of these galaxies that capture the UV-emitting rings and arcs indicative of new star formation.

Member Contributions



The Sword of Orion Messier 42 and NGC 1977

By Steve Wheeler

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)
- \$12** Student*

* To qualify, you must be enrolled full time in an accredited institution or home schooled.

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 Dr. Spencer Buckner at (931) 221-6241.

**BARNARD-SEYFERT
ASTRONOMICAL SOCIETY**
PO BOX 150713
NASHVILLE, TN 37215-0713

