

## Upcoming Events

### Board of Directors Meeting

June 2<sup>nd</sup> at the Cumberland Valley Girl Scout Council Building – 7:30 pm

July 7<sup>th</sup> at the Cumberland Valley Girl Scout Council Building – 7:30 pm

### Membership Meeting

June 16<sup>th</sup> at the Adventure Science Center – 7:30 pm

July 21<sup>st</sup> at the Adventure Science Center – 7:30 pm

### Star Parties

June 3<sup>rd</sup> - BSAS Public Star Party at Bells Bend Outdoor Center

June 4<sup>th</sup> – BSAS Private Star Party and Picnic at Spot Observatory

July 2<sup>nd</sup> – BSAS Private Star Party at mile marker 435.5 Natchez Trace Parkway

July 23<sup>rd</sup> – BSAS Public Star Party at Long Hunter State Park

July 30<sup>th</sup> – BSAS Private Star Party at mile marker 412 Natchez Trace Parkway

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### PDF Attachment: Bylaws Revision



## Planetary Nebula

Thursday, June 16, 2011  
Adventure Science Center  
7:30 pm



**Dr. Robert O'Dell**, Distinguished Research Professor in Physics and Astronomy at Vanderbilt University, will be discussing planetary nebula. Dr O'Dell has spoken to the club numerous times about his experiences as lead project scientist on the Hubble Space Telescope and his research on the Orion Nebula. You will not want to miss this one!

## From The President



Greetings from your BSAS president. Summer has arrived with a vengeance this year with temperatures rising into the 90's even before the official start of the season on the summer solstice which occurs just after midnight on June 21. If the heat of early June is any indication, it's going to be a long hot summer.

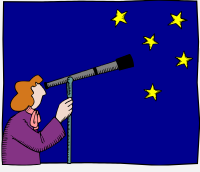
The astronomy community, both professional and amateur, is buzzing with exciting news: a supernova in M51 (the Whirlpool Galaxy). As I write this message the supernova is only a few days old. It was discovered by Stephane Lamotte and Marc Deldem, a pair of amateur French astronomers, on the night of June 1-2 using an f/5.7 C8 and a DSI II ccd. It just goes to show that amateur astronomers truly can make significant discoveries and contributions to the science.

I happen to be at Kitt Peak using the 0.9m WIYN telescope and will be imaging it every night I am here. For scientific analysis I would just image it with one filter but since it is M51, I plan on making some pretty pictures of the galaxy and will be using the Sloan UGR filters. I haven't made color images using that filter set (I have with the Johnson BVR set and the more common LRGB) so this should be a good learning experience in addition to the excitement of watching a supernova grow in brightness.

Alex Filippenko of UC Berkley and S. D. Van Dyk of the Spitzer Institute at Cal Tech have already searched prior Hubble images of M51 and think they have found the progenitor, an 18-24 solar mass yellow giant star. They will have to wait a year or so until the explosion fades and do an inventory of stars in the area to see which one is missing to be sure, though. If they are correct then it is a Type II SN of some kind which should reach peak brightness around magnitude 7 or 8 within a week or two. While that is below naked eye, it is easily a binocular object. Since M51 is placed so high in the evening sky it should be a prime target even as the Moon approaches full.

As I mentioned in my message last month, the BSAS board of directors has been looking into amending the club bylaws to allow us to change our meeting date.

*Continued on Page 2*



"My first remembered interest in astronomy was when my sixth grade teacher asked us all to write a one page paper on "What I want to be doing in 25 years" and I wrote that I wanted to be an astronomer observing with the 200-inch telescope at Palomar Observatory".

Dr. C. Robert O'Dell

### 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

#### June 2011

06/01 NEW Moon  
06/09 FIRST Quarter  
06/15 FULL Moon  
06/23 LAST Quarter

#### July 2011

07/01 NEW Moon  
07/08 FIRST Quarter  
07/15 FULL Moon  
06/23 LAST Quarter

### OBJECTS VISIBLE THIS MONTH

#### Messier Objects:

##### Galaxies:

The Virgo Cluster - M58, M59, M60, M84, M86, M87, M88, M89, M90, M91, M98, M99, M100

#### Caldwell Objects:

C-60/61 – The Antennae Galaxies  
C-6 – The Cat's Eye Nebula (planetary nebula)

### From the President, cont.

Since we are going to have to amend the bylaws anyway, the board appointed a bylaws review committee composed of BSAS VP Dr. Donna Hummell, BSAS secretary Bob Rice and member and former president Joe Boyd. As a result of their herculean efforts of searching through old board meeting minutes, newsletters, the BSAS website and other sources they have come up with a number of things that need to be changed. For a club such as the BSAS it is a good idea to go through an occasional house cleaning and fix all the old bits and pieces that become outdated and obsolete with time. I want to express my deep thanks to Joe, Donna and Bob for all the hard work they put into the effort. A complete listing of all the changes the board is recommending is poster later in this newsletter and is also posted on the BSAS website. The club will vote on the changes at the July 21, 2011 public meeting. Please make a point to attend the July meeting and participate in the vote.

I am really looking forward to this month's public meeting on June 16th. Our speaker this month is Dr. C. Robert O'Dell of Vanderbilt University. Dr. O'Dell was the lead project scientist on the Hubble Space Telescope when it was being proposed to congress for funding through most of the construction phase. He has had literally days of observing time with the HST. He has spoken to the club a number of times about his experiences with the HST and the Orion Nebula, one of his earliest and greatest astronomical loves. He will be speaking to us this time about planetary nebulae. Planetary nebulae are objects like the Ring, Dumbbell, Cat's Eye, Eskimo and Owl nebulae which are popular observing targets of many amateurs. These are the dying gasps of stars like our sun as they shed their outer layers and become white dwarf stars. I am sure Dr. O'Dell's talk will be a fascinating one so you don't want to miss it.

Finally, I want to thank Dr. J. Allyn Smith for his progress report on the astronomy activities at APSU at our May meeting. In the five years he has been at APSU we have really come a long way. While I laid the foundation for most of the astronomy courses we have at APSU, Allyn has been the driving force behind the many research capabilities we have developed. I am looking forward to our next five years and the further advances I hope will take place.

See you at the June 16 meeting.

Dr. Spencer Buckner  
President

## Happy Birthday Nakhla Meteorites by Robin Byrne

This month, we celebrate the 100th anniversary of rocks hitting Earth. On the morning of June 28, 1911, outside of Nakhla, Egypt, witnesses saw something extraordinary. Looking to the sky, they saw what looked to be a cloud forming, followed by an explosion in the sky. Soon stones, ranging in mass from 20 grams to 1.8 kilograms, were falling from the heavens. One stone, allegedly, hit and killed a dog, but no remains were ever produced in evidence. It is estimated that a total of 10 kilograms (22 pounds) of meteorites impacted Earth in 40 pieces.

Where did these meteorites come from? The composition was unique, and these fragments are now considered the defining meteorites of the Nakhlite subgroup (the "N" of SNC meteorites, where "S" and "N" stand for Shergottite and Chassigny, respectively). All the meteorites of the SNC group are quite different in composition from the vast majority of meteorites. Radioactive dating placed the ages of Nakhla meteorites at approximately 1.3 billion years old - far too young to be from an asteroid, since asteroids would have cooled and solidified much quicker after the solar system's formation 4.5 billion years ago. The only way they could have formed so recently is if they were from a larger object that took longer to cool. As early as the 1970's, there was speculation that they originated on Mars. But how to prove it? While many pieces of evidence pointed to a Martian origin, it wasn't until the mid-1970's, when Vikings 1 and 2 landed on Mars, that conclusive evidence confirmed the Martian hypothesis. Certain isotopes were found to be unique to Mars' atmosphere. Those same isotopes were found trapped in the meteorites. Now it is taken for granted that all 58 (according to Wikipedia) known SNC meteorites are of Martian origin.

In March of 1999, the Nakhla meteorite was examined using a scanning electron microscope. This revealed structures that appeared to be organic in origin. Similar structures were found in another SNC meteorite, ALH 84001, which made the news and stirred a lot of controversy at the time. In

2006, the Natural History Museum in London allowed NASA scientists to break open a Nakhla fragment to study a "fresh" sample. They found complex carbonaceous material in the pores, similar to the bacteria found in rocks on Earth. Could this be evidence for life on Mars? That is still highly debatable, since carbon compounds are found in abundance throughout the universe. And, so, the controversy continues.

Imagine witnessing dozens of rocks falling from the sky, only to discover that they had once been a part of another planet. What an awesome experience that would be. With Mars low in the sky during the predawn hours, try to catch a glimpse of it, and think about the handful of pieces of this planet we have here on Earth. Perhaps, one day, people will consider living on Mars to be commonplace, and Martian rocks will be as thrilling as the gravel in my driveway. But, until that day arrives, pieces of Mars, such as the Nakhla meteorite, are rare, exciting, and wondrous to behold.

References: The Nakhla Meteorite  
<http://www2.jpl.nasa.gov/snc/nakhla.html>

Nakhla meteorite - Wikipedia  
[http://en.wikipedia.org/wiki/Nakhla\\_meteorite](http://en.wikipedia.org/wiki/Nakhla_meteorite)

Nakhla meteorite  
<http://www.daviddarling.info/encyclopedia/N/Nakhla.html>

SNC Meteorites -- from Eric Weisstein's World of Astronomy  
<http://scienceworld.wolfram.com/astronomy/SNCMeteorites.html>



## Board Meeting Minutes – May 3, 2011

*Bob Rice, Secretary*

The board of directors of the Barnard-Seyfert Astronomical Society (BSAS) met in regular session at the Cumberland Valley Girl Scout Council Building in Nashville, Tennessee on May 3, 2011. A sign-in sheet was passed around in lieu of a roll call. Board members Dr. Spencer Buckner, Steve Cobb, Jana Ruth Ford, Bill Griswold, Dr. Donna Hummell, Kris McCall, Bob Norling, Curt Porter, Dr. Terry Reeves, Bob Rice, and Theo Wellington were present. Board member Santos Lopez was absent. Former President John Harrington was present as a guest. A quorum being present, President Dr. Spencer Buckner called the meeting to order at 7:43 P.M.

Treasurer Bob Norling reported that the BSAS had \$2,389.23 in its regular checking account and \$407.33 in its equipment account. Dr. Spencer Buckner announced these upcoming events and star parties:

- May 07 – Public star party at Long Hunter State Park from 8:00 P.M. to 10:00 P.M.
- Jun 03 – Public star party at Bells Bend Nature Center from 8:30 P.M. to 10:30 P.M.
- Jun 04 – BSAS Annual Picnic at Mark Manner's Spot Observatory from 5:30 P.M. to whenever.

Dr. Spencer Buckner announced that Dr. J. Allyn Smith would present an "Update on Astronomy Activities at Austin Peay State University" for the May 19 membership meeting program. Dr. Buckner reported that the BSAS' annual membership in the Astronomical League (A.L.), a national organization of amateur astronomy clubs, was up for renewal and asked the board to consider if the Society should rejoin. Bill Griswold commented that the BSAS' current membership upon which the A.L. dues were based was approximately 67 members. The board also noted that one of the major advantages of A.L. membership was being able to obtain liability insurance at a reasonable cost. Curt Porter moved that the BSAS renew its membership and Jana Ruth Ford seconded his motion that was subsequently passed by a unanimous voice vote without additional discussion.

The board then resumed its discussion from the previous board meeting on the Memorandum of Understanding (MOU) being drafted between the BSAS and the Adventure Science Center (ASC). This discussion centered upon wording changes to sections 8 and 9 of the draft agreement as follows:

8a. Change the wording to "Partner with ASC staff to provide experienced amateur astronomers to present two public programs at ASC on telescopes or other relevant astronomical topics as agreed upon."

8b. Change the wording to "Provide experienced amateur astronomers to partner with ASC staff to organize and promote free monthly Star Parties at ASC or other local locations as agreed upon."

8c. Delete the reference to Night Sky Network.

8d. Change the wording to "Partner with ASC staff to help plan and organize an annual Astronomy Day at ASC."

9. Change the wording of the ASC's recognition to "Come explore the universe free of charge at Star Parties with telescopes provided by the BSAS..."

Note: a copy of the draft MOU referenced in the items listed above is attached as an addendum to these minutes. Steve Cobb moved that these changes be presented to Susan Duvenhage, the ASC's President and Chief Executive Officer, for her consideration. Curt Porter seconded this motion and it was passed by a unanimous voice vote of the board. Dr. Spencer Buckner stated that he would make arrangements to meet with Ms Duvenhage and to keep the board posted in the interim via email.

Dr. Spencer Buckner reported that the recent on-line poll conducted among the BSAS membership to consider changing its monthly meeting to a day of the week other than Thursday as requested by the ASC had resulted in a nearly two to one preference for Wednesday evening. The board noted that such a change would require a formal vote of approval or disapproval by the membership and, if approved, a change to the bylaws. Additionally the board suggested that the Bylaws Committee should reconvene its deliberations so that any other recommended bylaws changes could be voted upon at the same time. The board also noted that if the bylaws were changed it might be useful to avoid specifying a certain meeting day but to instead provide that this would be "as determined by the board" to simplify the process in the future.

Since there was no further business to discuss, President Dr. Spencer Buckner declared the meeting to be adjourned at 8:41 P.M.

### OFFICERS

**Dr. Spencer Buckner**  
President

**Dr. Donna Hummell**  
Vice-President

**Bob Rice**  
Secretary

**Bob Norling**  
Treasurer

### Directors at Large

**Steve Cobb**  
**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 – May 19, 2011

*Bob Rice, Secretary*

President Dr. Spencer Buckner called the meeting to order at 7:39 P.M. in the Jack Wood Hall at the Adventure Science Center (ASC) and welcomed new members and visitors. Treasurer Bob Norling reported that the BSAS had \$2,299.23 in its regular bank account and \$407.31 in its equipment account. Dr. Buckner announced these upcoming star parties and events:

- Jun 03 – a public star party at Bells Bend Nature Center from 8:30 P.M. to 10:30 P.M.
- Jun 04 – the BSAS' annual potluck picnic at Mark Manner's Spot Observatory in Nunnally, TN.

Dr. Buckner announced that Vanderbilt University's Dr. Robert O'Dell would present a program on "Planetary Nebulae" at the June 21 membership meeting. He also reported that the ongoing Memorandum of Understanding (MOU) negotiation with the ASC was nearing completion and that he hoped to meet with Susan Duvenhage, the ASC's President, next week to continue the discussion. In addition, Dr. Buckner reported that the board was considering several changes to the Society's bylaws that would be recommended to the members in the June Eclipse newsletter for their consideration and to be voted upon at the July 21 membership meeting.

Dr. Spencer Buckner then introduced Dr. J. Allyn Smith from Austin Peay State University (APSU) who delivered the evening's program on an "Astronomy Update for APSU." Dr. Smith explained that many academic and physical changes had taken place at APSU since he last spoke to the BSAS in February 2007. These included development of both technical and non-technical minor programs in astronomy; new classes in planetary astronomy; courses in astronomy methods and instrumentation; an astrobiology class; stellar and galactic astrophysics courses; and establishing an independent study program. Dr. Smith pointed out that APSU joined the WIYN Consortium in February 2010 which allows faculty and students access to a 36 inch telescope at Kitt Peak National Observatory in Arizona. He noted that APSU is the only university that has undergraduate students using this facility. One of the other benefits of this arrangement is that APSU students can also visit Kitt Peak's Steward Observatory Mirror Lab.

Dr. Smith proudly pointed out that APSU students had participated in several areas of significant ongoing astronomical research. One, he noted, may have found three supernovae by studying accumulated data from the Sloan Digital Sky Survey. In addition, he related that several others had participated in the calibration of a new camera being used for the Dark Energy Survey at the Cerro Toledo Inter-American Observatory in Chile. Dr. Smith also described several improvements and additions to astronomy-related physical facilities. However, since APSU is near the Nashville/Davidson County area, one of particular interest to BSAS members was the establishment and near completion of a new dark sky observatory located in southwestern Montgomery County. Scheduled for a formal opening dedication in August 2011, this facility is equipped with a 20 inch Ritchey-Cretien telescope that will be used for student instruction and research. Dr. Smith then concluded his presentation by graciously answering questions from the audience.

Since there was no additional business for discussion, President Dr. Spencer Buckner declared the meeting to be adjourned at 8:44 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/>



## Milky Way Safari

Space Place Partners Article, May 2011  
By Dauna Coulter and Dr. Tony Phillips

Safari, anyone? Citizen scientists are invited to join a hunt through the galaxy. As a volunteer for Zooniverse's Milky Way Project, you'll track down exotic creatures like mysterious gas bubbles, twisted green knots of dust and gas, and the notorious "red fuzzies." "The project began about four months ago," says astrophysicist Robert Simpson of Oxford University. "Already, more than 18,000 people are scouting the Milky Way for these quarry."

The volunteers have been scrutinizing infrared images of the Milky Way's inner regions gathered by NASA's Spitzer Space Telescope. Spitzer's high resolution in infrared helps it pierce the cloaking haze of interstellar gas and dust, revealing strange and beautiful structures invisible to conventional telescopes. The Milky Way Project is helping astronomers catalogue these intriguing features, map our galaxy, and plan future research.

"Participants use drawing tools to flag the objects," explains Simpson. "So far they've made over a million drawings and classified over 300,000 images."

Scientists are especially interested in bubble-like objects believed to represent areas of active star formation. "Every bubble signifies hundreds to thousands of young, hot stars. Our volunteers have circled almost 300,000 bubble candidates, and counting," he says.

Humans are better at this than computers. Computer searches turn up only the objects precisely defined in a program, missing the ones that don't fit a specified mold. A computer would, for example, overlook partial bubbles and those that are skewed into unusual shapes.

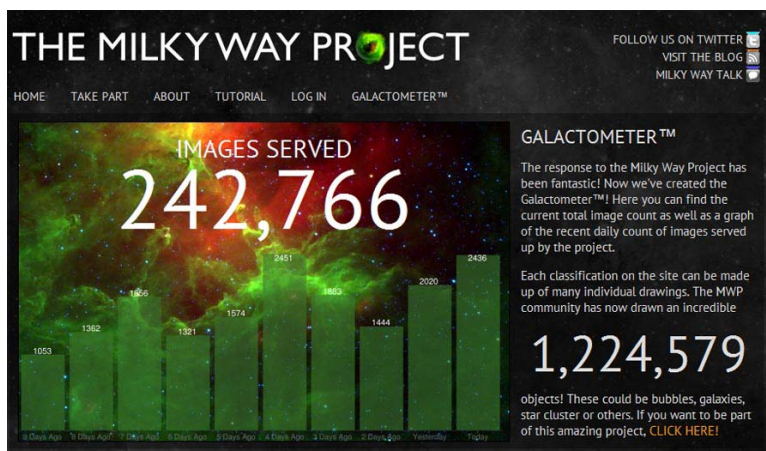
"People are more flexible. They tend to pick out patterns computers don't pick up and find things that just look interesting. They're less precise, but very complementary to computer searches, making it less likely we'll miss structures that deserve a closer look. And just the sheer numbers of eyes on the prize mean more comprehensive coverage."

Along the way the project scientists distill the volunteers' data to eliminate repetitive finds (such as different people spotting the same bubbles) and other distortions.

The project's main site (<http://www.milkywayproject.org>) includes links to a blog and a site called Milky Way Talk. Here "hunters" can post comments, chat about images they've found, tag the ones they consider especially intriguing, vote for their favorite images (see the winners at <http://talk.milkywayproject.org/collections/CMWS00002u>), and more.

Zooniverse invites public participation in science missions both to garner interest in science and to help scientists achieve their goals. More than 400,000 volunteers are involved in their projects at the moment. If you want to help with the Milky Way Project, visit the site, take the tutorial, and ... happy hunting!

You can get a preview some of the bubbles at Spitzer's own web site, <http://www.spitzer.caltech.edu/>. Kids will enjoy looking for bubbles in space pictures while playing the Spitzer concentration game at <http://spaceplace.nasa.gov/spitzer-concentration/>.



Volunteers study infrared images of our galaxy from the Spitzer Space Telescope, identifying interesting features using the special tools of the Milky Way Project, part of the Citizen Science Alliance Zooniverse web site.

## Board of Directors Meeting Minutes Addendum

### ADDENDUM

Being a copy of the most recent draft Memorandum Of Understanding submitted to the Barnard-Seyfert Astronomical Society's Board of Directors by the Adventure Science Center and to which the Board's changes described in the minutes above would be applied.

### MEMORANDUM OF UNDERSTANDING

Barnard-Seyfert Astronomical Society and Adventure Science Center

### PURPOSE:

This Memorandum of Understanding (MOU) is entered into between Barnard-Seyfert Astronomical Society (BSAS) and Adventure Science Center (ASC) in order to set forth in writing specific areas of collaboration to advance the science of astronomy and further the public understanding of astronomy through experiential experiences.

### THE BSAS MISSION:

The Barnard-Seyfert Astronomical Society is an organization dedicated to the advancement of the science of astronomy, the support and encouragement of amateur and professional astronomy, and the support and encouragement of the exploration and utilization of space for the advancement of civilization. The BSAS operates under the State of Tennessee Title 48 as a non-profit.

### ASC MISSION:

The Adventure Science Center ignites curiosity and inspires the lifelong discovery of science. ASC is a private, not-for-profit duly qualified charitable organization under section 501 (c)(3) of the Internal Revenue Code.

### BSAS and ASC agree that:

1. ASC shall provide meeting space and use of a projector and screen for monthly BSAS meetings to be held the third (Monday, Tuesday, Wednesday or Thursday—tbd) of each month at no cost to BSAS.
2. Monthly BSAS meetings shall begin at 7:30 pm and end no later than 9:30 pm.
3. Other than the designated meeting space and a nearby restroom, BSAS meeting attendees shall not access closed ASC exhibit areas.
4. Due to extreme circumstances (i.e. threatening weather, extended utility outages, declared city-wide state of emergency), ASC reserves the right to close and thereby cancel a scheduled meeting on short notice.
5. BSAS may elect to have a potluck meal and program as the December meeting in which case either Jack Wood Hall or the Skyline Room would be available 6 pm until 9:30 pm. Recognizing that December is typically a busy time for private holiday events at ASC and that private holiday rentals are a source of operating income for the science center, BSAS agrees to pay to ASC \$150 as a set-up/strike fee for the required tables and chairs for 75 attendees. This event shall be booked through ASC's Private Events Department (401-5106) and is subject to ASC's private event policies.
6. BSAS meetings held at ASC shall be promoted by both organizations as free and open to the general public with the single exception of the BSAS December member potluck meal.
7. Use of the Sudekum Planetarium for the purpose of a monthly meeting shall be negotiated on a case-by-case basis.
8. In exchange for waiving the after-hours venue and equipment fees associated with the regular monthly meetings, BSAS agrees to:
  - a. Provide experienced amateur and professional astronomers to present two public programs at ASC on telescopes or other relevant astronomical topics as requested by ASC staff.
  - b. Provide experienced amateur and professional astronomers to facilitate free monthly Star Parties at ASC and other local locations as organized by ASC staff.
  - c. Recognize the ASC-BSAS Star Party partnership on their website and their Night Sky web page (at each ASC-BSAS Star Party venue) by adding "BSAS hosts monthly Star Parties in collaboration with the Sudekum Planetarium at Adventure Science Center" and a hyperlink from "Adventure Science Center" text to the Sudekum Planetarium Star Party page.
  - d. Provide experienced amateur and professional astronomers to help plan and execute an annual Astronomy Day at ASC as organized by ASC staff.
  9. ASC agrees to recognize the BSAS-ASC Star Party partnership on their Star Parties web page by adding "Join the members of the Barnard-Seyfert Astronomical Society for free monthly Star Parties" and a hyperlink from "Barnard-Seyfert Astronomical Society" text to the BSAS home page.

### NOTICES:

To BSAS at:	Barnard-Seyfert Astronomical Society P.O. Box 150713 Nashville, TN 37215-0713	To ASC at:	Adventure Science Center 800 Ft. Negley Boulevard Nashville, TN 37203 ATTN: Operations Director Fax: 615-862-5178
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### TERM, RENEWAL AND TERMINATION:

This MOU will become effective when signed by the President of the BSAS, having been ratified by the BSAS Board of Directors, and the President and CEO of ASC. This MOU shall automatically renew annually unless BSAS or ASC wishes to modify it in which case either BSAS or ASC shall provide modifications in writing to the other sixty (60) days in advance of annual renewal date. Either party may choose to terminate this MOU provided they give the other party at least sixty (60) days written notice thereof, which notice shall designate the date of termination and the MOU shall expire on such date.

**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)
- \$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**

To find the expiration date for your current membership, visit our web site at <http://www.bsasnashville.com> and click the Renewals link.

There will be a two month grace period before any member's name is removed from the current distribution 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.

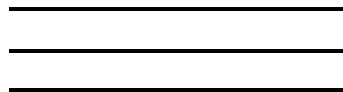
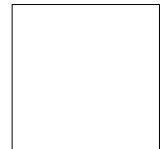
The BSAS meets on the third Thursday of each month at the Adventure Science Center in Nashville. Experienced members or guest speakers talk about some aspect of astronomy or observing. Subjects range from how the universe first formed to how to build your own telescope. The meetings are informal and 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 Dr. Spencer Buckner at (931) 221-6241.

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





# Bylaws of the Barnard-Seyfert Astronomical Society

## Proposed Revisions for Review

June 02, 2011

**NOTE:** Deletions are ~~lined through in red~~ and changes or insertions are underlined in red.

### **ARTICLE II. MEMBERS.**

**Section 205. Annual Meeting.** The annual meeting of the members shall be held ~~on the third Thursday in November~~ in each year ~~at 7:30 P.M.~~, for the purpose of electing officers and directors and for the transaction of such other business as may come before the meeting. If the day fixed for the annual meeting shall be a legal holiday in the state of Tennessee, such meeting shall be held on the next succeeding business day. If the election of officers and directors shall not be held on the day designated for any annual meeting of the members or at any adjournment thereof, the board of directors shall cause the election to be held at a special meeting of the members as soon thereafter as may be convenient, subject to Section 208. The date and time of the meeting shall be determined by resolution of the board of directors.

**Section 208. Place of Meetings.** The board of directors may designate any place in the State of Tennessee as the place of meeting for any regular meeting of the membership or for any special membership meeting called by the board of directors. If the board of directors so determines by resolution, the annual membership meeting may be held at a different place than that set out in Section 205 above, provided that the membership has received the required notice set out in Section 209 by mail, by fax, or by email. If a special meeting be called by the President, the place of meeting shall be ~~the corporation's principal office.~~ designated by the board of directors.

**Section 209. Notice of Meetings.** Notice of annual and special meetings shall be furnished to each member by mail, by fax, or by email as provided in T.C.A. Sections 48-57-105 and 48-57-106. If such notice is given by mail, it shall be given no more than thirty (30) days and no less than fifteen (15) days in advance. If given by fax or email, it shall be given no more than thirty (30) days and no less than ten (10) days in advance of the meeting. ~~Notice of regular monthly meetings may be furnished in the newsletter provided in Section 814.~~ Notice of regular monthly meetings may be furnished by the newsletter as provided in Section 814, and notice of special meetings in the newsletter provided in Section 814 shall comply with the requirements of this section, provided the newsletter shall be mailed or emailed no more than forty-five (45) days and no less than ten (10) days in advance. The internet website should contain an additional notice of all membership meetings from the date of call of the meeting to the date of the meeting.

### **ARTICLE III. DIRECTORS**

**Section 303. Term of Office.** Each director at large shall hold office for a three (3) year term, except as otherwise provided in these bylaws, such term to expire at the annual membership meeting in the third year of the director's term and the election and qualification his or her successor. Thus there shall be two directors at large to be elected each year to serve three year terms.

**Section 307. Notice.** ~~The secretary shall give notice of each special meeting of the board of directors. Notice of any special meeting of the board of directors shall be given by the secretary or president in the following manner: S~~such notice shall be given at least ten (10) days prior to the meeting if given by mail, and at least ~~five (5) three (3)~~ days prior to the meeting if given by fax, ~~or by email, or by telephone call personally to each director.~~ A director may waive any notice before or after the date and time stated in the notice. The business to be transacted need not be specifically stated unless required by law, the charter, or these bylaws. A director's attendance at or participation in a meeting waives any required notice of the meeting unless the director at the beginning of the meeting (or promptly after the director's arrival) objects to holding the meeting or transacting business at the meeting and does not thereafter vote for or assent to action taken at the meeting. Notice of an adjourned meeting need not be given if the time and place to which the meeting is adjourned are fixed at the meeting at which the adjournment is taken, and if the period of adjournment does not exceed twenty (20) days in any one adjournment.

**Section 309. Vote.** The vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the board, unless the vote of a greater number is required by the charter, these bylaws, or by the laws of the State of Tennessee. No voting by proxy shall be permitted at a board of directors meeting. A director who is present at a meeting of the board of directors when corporate action is taken is deemed to have assented to the action taken unless: (1) the director objects at the beginning of the meeting (or promptly upon the director's arrival) to holding it or transacting business at the meeting; (2) the director's dissent or abstention from the action taken is entered in the minutes of the meeting; or (3) the director delivers written notice of the director's dissent or abstention to the presiding officer of the meeting before adjournment or to the corporation immediately after adjournment of the meeting. The right of dissent or abstention is not available to a director who votes in favor of the action taken. ~~Members of the board of directors may participate in a meeting of the board by means of conference telephone or other communications equipment by means of which all persons can hear each other, and participation in a meeting pursuant to this provision shall constitute presence in person at such a meeting. Any action required or permitted to be taken at any meeting of the board of directors may be taken without a meeting if all members of the board consent thereto in writing or by electronic transmission, and such writing or writings or electronic transmissions are filed with the minutes of proceedings of the board. Such filings shall be in paper form.~~

**Section 316. Action Without Formal Meeting.** Any action required to be taken or which may be taken at a meeting of the board of directors may be taken without a ~~formal~~ meeting, if all directors consent to taking such action without a meeting. The affirmative vote of the number of directors that would be necessary to authorize or take such action at a meeting is the act of the board. The action must be evidenced by one (1) or more written consents describing the action taken, signed by each director, and included in the minutes filed with the corporate records reflecting the action taken. Action taken under this section is effective when the last director signs the consent, unless the consent specifies a different effective date. A consent signed under this section has the effect of a meeting vote and may be described as such in any document.

#### **ARTICLE IV. OFFICERS**

**Section 402. Election and Term of Office.** The officers of the corporation shall be elected each year by the membership at the annual membership meeting. The term of office of each officer shall be one year, beginning with the end of the annual meeting held ~~on the third Thursday in December~~ in each year ~~at 7:30 P.M.~~, and ending with the end of the meeting at which the term expires. If the election of officers shall not be held at such meeting, the election shall be held as soon thereafter as it conveniently can be.

Each officer shall hold office until his or her successor shall have been duly elected and shall have qualified.

**Section 404. Vacancies.** In the event the vice-president assumes the office of president, his or her office shall not be deemed vacant. Vacancies in the offices of secretary and treasurer may be filled by the board of directors or the membership for the unexpired portion of the term of office.

**Section 405. President.** The president shall be the principal executive officer of the corporation and, subject to the control of the board of directors, shall in general supervise and control all of the business and affairs of the corporation. He or she shall, when present, preside at all meetings of the members and of the board of directors. He may sign, with the secretary or any other proper officer of the corporation so authorized by the board of directors, any deeds, mortgages, deeds of trust, bonds, contracts, or other instruments which the board of directors has authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the board of directors or by these bylaws to some other officer or agent of the corporation, or shall be required by law to be otherwise signed or executed. In addition, he shall, in general, perform all duties of the office of president and such other duties as may be prescribed by the board of directors from time to time.

**Section 406. Vice President.** In the absence of the president or in the event of his or her -death, or inability or refusal to act, the vice president shall perform the duties of the president, and when so acting, shall have all the powers of, and be subject to all of the restrictions upon, the president. The vice president may sign, with the secretary or other authorized officer, any instruments which the board of directors has authorized to be executed, and shall perform such other duties as from time to time may be assigned to him or her by the president or by the board of directors.

**Section 407. Secretary.** The secretary shall:

- (A) Keep the minutes of the meetings of members and of meetings of the board of directors in one or more books provided for that purpose;
- (B) See that all notices are duly given in accordance with the provision of law, the charter, and these bylaws;
- (C) Be custodian of the corporate records of the corporation including but not limited to the charter and the bylaws.
- (D) Keep a register of the post office address of each member, and the email address of each member having such an address, which addresses shall be furnished to the secretary by each member;
- (E) Have general charge of the membership books of the corporation; and
- (F) In general perform all duties incident to the office of secretary and such other duties as from time to time may be assigned to him or her by the president or by the board of directors, or which are required by law.

## **ARTICLE V. COMMITTEES**

**Section 502. General Committees.** Other standing and temporary committees to carry out certain work of the corporation may be designated by the board of directors. Both regular and special committees may be established by the board of directors, although special committees may also be authorized, on his or her own initiative, by the president. Except as otherwise provided, members of each committee shall be members of the corporation and the president of the corporation shall appoint all committee members. The president shall be a member of each committee.

## **ARTICLE VI. CONTRACTS AND FINANCES**

**Section 604. Preservation of Assets.** Assets of the corporation shall not be sold, mortgaged, leased, or otherwise disposed of or encumbered, except in due course of business, without approval of the board of directors. If more than ~~five hundred dollars (\$500.00)~~ one thousand dollars (\$1,000.00) is involved, such action must be ratified by the membership.

## **ARTICLE VII. DUES AND MEMBERSHIP**

**Section 702. Default and Termination of Membership.** When any member shall be in default in the payment of dues for a period of sixty (60) days from the date of his or her dues renewal, his or her membership may be terminated by the board of directors in the manner provided in these bylaws. The board of directors may, by resolution, delegate to the Treasurer or any other officer or director the authority to exercise this authority, on such terms as it shall deem advisable, while complying with the requirements of these bylaws. In addition, the board of directors may, by resolution, provide for a leave ~~or~~ of absence with suspension of dues, while continuing membership benefits, to any member(s) who may be called or recalled to active duty in any component of the United States armed forces, on such terms as the board may decide. In addition, special circumstances may be considered by the board.

**Section 703. Certificates of Membership.** The board of directors may provide for the issuance of certificates of membership in the corporation, which shall be in such form as may be determined by the board. The certificates shall be signed by the president and the secretary.

## **ARTICLE VIII. MISCELLANEOUS**

~~**Section 811. Directors and Officers.** All directors at large who are already in office at the time of adoption of these bylaws shall continue in office for the remainder of the three year term to which he or she has been elected, on the previous staggered schedule. Inasmuch as there have been only five directors at large prior to the adoption of these bylaws, an additional director at large shall be elected at the next membership meeting following the adoption of these bylaws, with a term to fit into the schedule so that the schedule of two directors to be elected each year may be maintained. Officers who have previously been elected to fill out unexpired three year terms (the secretary and treasurer) shall continue to fill the offices only until the annual meeting of 2002, at which time all officers shall be elected for one year terms, as provided in Section 402 above.~~

**Section ~~812~~ 811. Nominations for Officers and Directors.** Nominating letters may be transmitted to the Secretary not later than ~~July 1~~ September 1, each such letter stating the office to which the nomination is made and the name of the member nominated to the office, and signed by a member in good standing. The letters shall be turned over to a Nominating Committee, which may, in the discretion of the board of directors, be composed of the board of directors itself. The board of directors may by resolution make nominations for officers and directors, and shall consider the nominating letters received but not be bound by them. Members may make nominations from the floor at any meeting at which an officer or director is to be elected.