



The ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

Organized in 1928

October 2013

The Membership meeting will be held on October 16, 2013 at the Cumberland Valley Girl Scout Council Building located at the intersection of Harding Place and Granny White Pike at 7:30 pm.

Losing the dark: Light Pollution and You Defining light pollution, what the effects are beyond simply blocking our view of the night sky, and what we can do about it. BSAS President Theo Wellington and Vice President Joe Boyd will talk about the problems caused by the excessive use of light at night and how we need to work to get back more of the natural dark sky.

Upcoming Events

Board of Directors Meeting, October 2 at the Cumberland Valley Girl Scout Building – 7:30 pm

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Eclipse photograph by
Francisco Diego

From the President

I hope everyone has been out enjoying some of the clear nights we have had lately! Our cool summer has eased into a nice gentle fall.

I hope you are planning to come to some of the monthly meetings. We try to have a mix of programs, from science to observing. Starting out with an interest in space, looking at the night sky leads to questions... why does that star appear red and that one blue? How do we know how far away the stars are? Computers and the internet make it possible to learn as much as you would like at your own pace from the comfort of your favorite chair at home.

A professor of astronomy at the University of Arizona has an online course that you can take...for free! [Astronomy: State of the Art](#) lets you catch up on what is known from telescope on up to the beginning of the universe. The course features occasional live sessions as well as the ability to ask questions of the professors. There is also a nice series of interviews with guest “lecturers.” A companion online book [Teach Astronomy](#) is also online.

Our friends at the Planetary Society have also posted an online introductory course. Dr. Bruce Betts, the Planetary Society's Director of Projects, has kindly made available his class from California State University. In [Physics 195: Introduction to Planetary Science and Astronomy](#) you can learn about the solar system and the universe. If you like a challenge, the assignments and tests are online as well!

Maybe you’d like to take a course at Yale? Check out [ASTR 160: Frontiers and Controversies in Astrophysics](#)

MIT sounds good...how about leaning about telescopes to view stars and planets? Although the class was recorded in 2002, it is still relevant to the hobby. So check out [Hands-On Astronomy: Observing Stars and Planets](#) from the MIT OpenCourseware catalog.

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Targets for October & November

Moon Phases

OCTOBER 2013

10/4 New Moon
10/11 First Quarter Moon
10/18 Full Moon
10/25 Last Quarter Moon

NOVEMBER 2013

11/3 New Moon
11/9 First Quarter Moon
11/17 Full Moon
11/25 Last Quarter Moon

Objects

Globular Clusters

M56, M71, M55, M75, M15,
M2, M72, M30

Open Clusters

M11 (Wild Duck), M26, M73,
M29, M39, M52

Nebula

M57 (Ring), NGC 6543 (Cat's Eye), NGC6826 (Blinking), M27 (Dumbbell), NGC7000 (North America), IC5146 (Cocoon), NGC7293 (Helix)

Asterisms

Cr399 (Coat Hanger)

Multiple Star Systems

Double-Double (Epsilon Lyrae)
Albireo (Beta Cygni)
Gamma Delphini

Variable Stars

Mu Cephei (Herschel's Garnet Star)

Planets:

Mercury
Jupiter
Uranus
Neptune

Book Review “Apollo EECOM Journey of a Lifetime”

reviewed by Robin Byrne

At this year’s SEPA (Southeastern Planetarium Association) conference, the keynote speaker was Sy Liebergot, who brought along copies of his book to sell. As several people rushed to get in line, I was fortunate to be close enough to get a copy. I’m glad I did.

Like so many books written by people involved in the Apollo program, Liebergot’s book gives wonderful insights into a particular portion of the program, as well as his own personal story. Written, mostly, in chronological order, we begin with Sy’s childhood. His father was constantly on the run from his gambling debts, drank heavily, physically abused Sy, had several affairs, and left his wife for one of his mistresses who had become pregnant. His mother was mentally unstable, and ultimately had to be institutionalized. A very bleak existence for a young child.

Sy’s first dream was to be a photojournalist, and after high school, he got a job at the Philadelphia Enquirer. However, it wasn’t as a photographer, but as a copy boy. Seeing no hope of moving up the ladder, Sy decided to join the Army. It was in the Army that he got his first training in working with electronics and a variety of equipment as part of the Army Weather Observers Corps (AWOC). After completing his tour of duty, Sy moved to California and worked several jobs while attending college to obtain his degree in engineering. With a recent marriage, a growing family, plus the responsibilities of work and school, Sy’s life was filled with stress.

His final year in school came with a new job, working at North American Aviation, which got the contract to build the second stage of the Saturn V rocket, as well as the Command and Service Modules (CSM) for the Apollo flights. This led to a position with the Flight Operations Support Group and a move to Houston. Sy quickly realized that he was essentially a go-between for NASA and the contractor. He wanted more. When the opportunity arose, Sy switched to NASA’s Manned Spacecraft Center’s Mission Operation Control Room (MOCR). He was on his way to becoming a flight controller.

Sy eventually was given the position of EECOM (Electrical, Environmental and Communications). Although the Communications portion was later separated off into a different position, the acronym stuck. The EECOM was responsible for all life support systems, including electrical power, heating and cooling, atmospheric pressure, oxygen supply, and the fuel cells containing liquid hydrogen and oxygen. Essentially, the EECOM was responsible for about half of the systems on board.

Although involved with all of the Apollo missions, Sy is best remembered for his role during the Apollo 13 disaster. With only one hour left in his shift, the fateful words “Okay Houston, we’ve had a problem here” were heard. With data streaming in that seemed impossible, Sy’s first thought was that there was something wrong with the instrumentation. When it quickly became evident that it wasn’t a faulty sensor, the next step was to try to isolate the problem and save whatever power and oxygen they could. After unsuccessfully trying to stop the loss of all power, it was decided to move the crew to the Lunar Module and power down the Command Module so that there would be enough power left for reentry. Even though the flight crew on duty during the start of the disaster was well immersed in addressing the problem, the next shift was on hand and providing support already. So the decision

was made to proceed with the handover to the next shift to keep everyone fresh. Although only involved for one hour, the work of Sy and the other flight controllers is what saved the lives of the Apollo 13 crew. Sy calls it “the longest hour of his life.”

Liebergot remained with NASA into the beginning of the shuttle era, but felt the need to move on. He found a variety of positions that kept him happy. He also found a relationship that would finally last. He found the balance that had been missing all along.

Written in the abrupt, conversational style you would expect from someone who went through the military and had worked at Mission Control, “Apollo EECOM” is an enjoyable, quick read, with plenty of anecdotes about the people and events of the Apollo era. I highly recommend it.

Apollo EECOM Journey of a Lifetime by Sy Liebergot with David M. Harland; Apogee Books, 2006

Star Parties for October and November

| | | | | |
|-----|-------|-----------------|-----------------------------|--|
| Sat | 10/5 | BSAS trace | NM is 10/5 | mile marker 412 water valley overlook |
| Sat | 10/12 | ASC 730 to 1030 | FQ is 10/11 2 nd | Saturday & Int'l Observe the Moon Night |
| Fri | 10/25 | Bells Bend | 800 to 1000 | LQ is 10/30 Andromeda Galaxy, Pleiades, double stars, clusters, etc |
| Sat | 11/2 | BSAS trace | NM is 11/3 | mile marker 435.5 |
| Fri | 11/8 | Bowie Park | 700 to 1000 | FQ is 11/10 Andromeda Galaxy, Pleiades, etc |
| Sat | 11/9 | Warner Park | 700 to 900 | FQ is 11/10 2 nd Saturday – Moon, Andromeda Galaxy, Pleiades, etc |
| Sat | 11/30 | BSAS trace | NM is 12/3 | mile marker 412 water valley overlook |

**Barnard-Seyfert Astronomical Society
Minutes of the Regular Meeting of the Board of Directors
Held on Wednesday, September 4, 2013**

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 Wednesday, September 4, 2013. A sign-in sheet was passed around in lieu of a roll call. Board members Poppy Simmons, Joe Boyd, Bud Hamblen, Bill Griswold, Theo Wellington and Bob Norling were present. A quorum being present, President Theo Wellington called the meeting to order at 7:40 P.M.

Theo Wellington asked for corrections to the minutes of the previous board meeting held on August 7, 2013 and, there being none, asked for a motion declaring them to be approved as published in the September 2013 edition of the Society's *Eclipse* newsletter. Joe Boyd so moved and Bill Griswold seconded his motion, which was subsequently passed by a unanimous voice vote.

Treasurer Bob Norling reported that the BSAS had \$2,044.81 in its regular checking account and \$1,251.28 in its equipment account.

Theo Wellington announced that solar observing would be provided at the Dragon Boat Festival, Riverfront Park, on September 7, 2013. Theo said she would be bringing a solar telescope. Poppy Simmons said she would be assisting. Bob Norling said he would be attending. Theo said she would be sending an e-mail with details.

Theo Wellington announced upcoming star parties:

September 7 – Private Star Party at Natchez Trace Mile Marker 435.5.

September 14 – Public Star Party at Long Hunter State Park

October 5 – Private Star Party at Natchez Trace Mile Marker 412, Water Valley Overlook

There was a brief discussion of programs for upcoming membership meetings. The program for the September meeting was confirmed to be as announced on the club web site. Joe Boyd stated that he would be available to present a report on efforts to prevent light pollution at the October 2013, membership meeting. Theo said that members of the board and the program committee would meet at her residence on Friday, September 6, 2013, at 6:00 PM to discuss programs for upcoming meetings.

Joe Boyd and Bill Griswold stated that they would be meeting mayoral candidate, Metro Council Member At-Large Megan Barry on Thursday, September 6, 2013, to present views on outdoor lighting, including selection by Metro of efficient outdoor lighting that reduces cost and light pollution.

Bill Griswold stated that the nominating committee would be seeking candidates for offices and board membership from among the current club members.

Theo Wellington asked for a motion to continue meeting at the Girl Scout building and have the appropriate individuals negotiate with the Girl Scouts for rental of the meeting rooms currently used by the club. Joe Boyd so moved and Bill Griswold seconded his motion, which was subsequently passed by a unanimous voice vote.

Joe Boyd briefly reported on the International Dark-Sky Association (IDA) and the effort to organize a local chapter of the IDA. By-laws of a local chapter would have to conform to guidelines adopted by the IDA and be approved by the IDA. Example by-laws were available from the IDA.

Theo Wellington stated that there was excitement about the upcoming August 21, 2017, total solar eclipse. It was suggested that Dr. Ming Wang be contacted to make a presentation on safe solar

viewing before the eclipse. Theo stated that there were eight or nine Tennessee state parks on the path of totality and that the Tennessee parks department was interested in using state parks to accommodate public interest in the eclipse. It was suggested that Dan McGlaun, proprietor of the web site eclipse2017.org, be contacted about presenting a program on the eclipse.

Because the first Wednesday in January, 2014, is January 1, a public holiday, it was suggested to move the board meeting date from January 1 to January 8, 2014.

Since there was no further business to discuss, Poppy Simmons moved that the meeting be adjourned. Bud Hamblen seconded her motion that passed by a unanimous voice vote of the board at 8:53 P.M. without additional discussion.

Respectfully submitted,
Bud Hamblen, Interim Secretary

**Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held On Wednesday, September 18, 2013.**

The Barnard-Seyfert Astronomical Society held its monthly membership meeting for September at the Girl Scouts of Middle Tennessee, 4522 Granny White Pike, Nashville, Tennessee, on September 18, 2013. President Theo Wellington called the meeting to order at 7:40 pm. Twenty-two members and guests were present. Theo Wellington asked for a motion to approve the minutes of the August 21, 2013, membership meeting as published in the September 2013 issue of the Eclipse. Bill Griswold so moved, Spencer Buckner seconded the motion, and the minutes were adopted by a unanimous voice vote. Treasurer Bob Norling reported that there was \$2,064.93 in the regular account and \$1,251.28 in the equipment account.

Theo noted these upcoming events and star parties:

Saturday, October 5, 2013 - BSAS Private Star Party at Natchez Trace Parkway mile marker 412 (Water Valley Overlook).

Saturday, October 12, 2013, 7:30 - 10:30 pm, Adventure Science Center

Friday, October 25, 2013, 8:30 - 10:00 pm, Bells Bend Outdoor Center

Saturday, November 2, 2013 - BSAS Private Star Party at Natchez Trace Parkway mile marker 435.5

Theo provided an update on Comet ISON, and showed a recent photo of Comet ISON taken by Chris Schurr. A newly discovered comet, C/2013 R1 Lovejoy, and the periodic comet 2P/Encke, also will be visible in November.

Bob Norling is accepting orders for the 2014 Deep Space Mysteries Calendar, the 2014 RASC Observer's Handbook and the 2014 Guy Ottewell Astronomical Calendar. See Bob Norling if you would like to order a copy of any of these annual publications. There is a \$5 deposit per item. The final cost for the Deep Space Mysteries Calendar is \$10. The final costs for the RASC Handbook and the Ottewell Calendar depend on the number of copies ordered, but will be approximately \$25 per copy. Spencer Buckner will be consolidating orders for the Ottewell Calendars, but see Bob Norling to place your orders and make your deposits.

Theo said we had not received James Davidson's contact information. If anyone knows how to contact Mr Davidson, please let us know.

Theo announced request for astronomy outreach assistance by the Girls Scouts, who will have events at Camp Sycamore Hills, near Ashland City, and at Camp Piedmont, near Murfreesboro, October 18, and at Montgomery Bell State Park, November 16.

Pickett State Park, near Jamestown, Tennessee, is sponsoring a New Year's Star Party. A bunkhouse will be available for astronomers. Bring your own sleeping bag.

Theo mentioned the equipment loaner program. The BSAS has telescopes to lend to members.

Theo solicited ideas for programs for upcoming membership meetings.

Joe Boyd solicited support for the efforts of the International Dark-Sky Association to encourage public lighting that is more economical and better for the night sky, and for a Middle Tennessee chapter of the IDA. Joe Boyd and Bill Griswold met with public officials about outdoor lighting. Neither NES nor Public Works claimed responsibility for selection of public lighting fixtures. The need for a "politician-accessible" presentation on energy efficient outdoor lighting was brought up.

Chuck Schlemm announced he would have a telescope at the Full Moon Picking Party fundraiser, Percy Warner Park Equestrian Center, 2500 Old Hickory Blvd, September 20, and a solar telescope at the Bowie Nature Park Fall Fun Day, 7211 Bowie Lake Road, Fairview, from 10 AM to 4 PM, Saturday, September 28.

Theo introduced Dr. John Wallin, Director of the Computational Sciences Program, and Professor of Physics and Astronomy, Middle Tennessee State University, who presented the Zooniverse project. The Zooniverse is home to the internet's largest, most popular and most successful citizen science projects: <<https://www.zooniverse.org/>>. There is so much data to be examined that researchers can't possibly do it all, and volunteers are needed to examine the data. The goal of Zooniverse is to produce quality science for publication making best use of the volunteer's time.

There being no further business, the meeting was adjourned at 9:00 pm.

Respectfully submitted,
Bud Hamblen, Interim Secretary

President's Message, continued from Page 1

Hopefully we will have a bright comet to look at and of course take pictures of later this fall as Comet ISON speeds toward the Sun. Tips from a pro on astrophotography for beginners can be found at Jerry Lodriguss' site, [Catching the Light](#). Sky and Telescope has a webinar series that goes over planetary imaging as well at <http://www.skyandtelescope.tv/videoscategory/online-classes/>. There is also a lot of talent available in the area.....some of our best local folks post links to their work on the [Tennessee Astronomy Yahoo Group](#). Check it out, join, and you might get inspired to try your own hand at capturing the beauty of the night sky!

Clear, dark skies,

Theo Wellington, President

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

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.

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 Wednesday of each month at the Cumberland Valley Girl Scout Building at the intersection of Granny White Pike and Harding Place 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 Theo Wellington at (615) 300-3044.

[BSAS on Facebook](#)

Free Telescope Offer!

Did someone say free telescope? 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. A waiting list is 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.