

The ECLIPSE

March
2018

The Newsletter of the Barnard-Seyfert Astronomical Society

Next Membership Meeting:

March 21, 2018, 7:30 pm

Cumberland Valley
Girl Scout Council Building
4522 Granny White Pike

Topic: Equipment Tune-up
Details on page 6.

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From the President

Greetings,

February 2018 was no friend of BSAS weather wise. The short month of February was not short on rain. We saw 18 or 19 days with measurable participation. Average monthly rainfall in February for Nashville is 3.7 inches. We had just under 11 inches. When it wasn't raining it was cloudy and windy. We had enough bad weather to frustrate almost all attempts to view the winter stars and deep sky objects we believe are still up there. Our public star party at Edwin Warner Park was washed out, as was the private star party on the Natchez Trace at Water Valley Overlook. May we turn the page on that trend?

Thanks to Terry Reeves for his informative and helpful presentation, All About A Messier Marathon, which he gave at this month's member meeting. We will have a chance to put that information into practice on Saturday, March 17th when BSAS holds a Messier Marathon at Mark Manner's Spot Observatory. Just in case, we are planning April 14th as a backup date. We have that date reserved for a private star party at Water Valley Overlook. If needed, we will simply move it to Spot Observatory and add on a pot luck dinner

We will be holding a public star party at Shelby Bottoms Nature Center on March 24th. Even though that is not the darkest site where we gather for star parties, it does typically draw an enthusiastic and appreciative crowd.

Many thanks to Spencer Buckner for donating an eight-inch go-to dobsonian telescope to BSAS. It has already been loaned to one of our members. BSAS also purchased two more eight-inch dobsonians, one of which has a "push to" computerized object locator. Those telescopes are now available to any member wanting to borrow them. Come to



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NASA / JPL-Caltech / Cornell /
ASU / James Sorenson / Don Davis

On February 16, 2018, the Mars Exploration Rover Opportunity celebrated its 5000th sol on Mars. Pretty good for a rover with a 90-sol warranty. Mission teams often mark sol milestones on Earth, but the activities on Mars usually aren't any different on such a day. But for sol 5000, Opportunity did something special: it took a [self-portrait](#). The self-portrait was extended a week later with an additional lower tier covering the wheels on the ground. This photo has been artificially colorized using a realistic Mars palette.

Upcoming Star Parties

Saturday 3/17	Private Star Party / Messier Marathon SPOT Observatory
Saturday 3/24 8:00 pm to 10:00 pm	Public Star Party Shelby Bottoms Nature Center
Saturday 4/14	Private Star Party Natchez Trace Parkway mile marker 412 (Water Valley Overlook)
Friday 4/20 8:30 pm to 10:30 pm	Public Star Party Bowie Nature Park (Fairview)



Mar 17
Apr 15



Mar 24
Apr 22



Mar 31
Apr 29



Mar 9
Apr 8

Book Review: From a Certain Point of View reviewed by Robin Byrne

I'm deviating from my traditional review of a book dealing with factual information to the realm of fiction. Why? BECAUSE IT'S STAR WARS! From a Certain Point of View was written to celebrate the 40th anniversary of the release of Star Wars: A New Hope. It is comprised of 40 short stories, each written by a different author (or authors). While the stories follow the events of A New Hope, they are told from the perspective of characters either in the background, or not even seen in the film.

Because each story has a different author, the styles vary widely. That means there may be some stories you'll love and others that bore you. That was certainly my experience. However, there were far more that I truly enjoyed than stories I could have done without. I got the audio book to listen to while driving to and from work. The audio book version has the added bonus of hearing the stories read by a variety of people lending their voice talents to the characters, along with sound effects and music enhancing the stories.

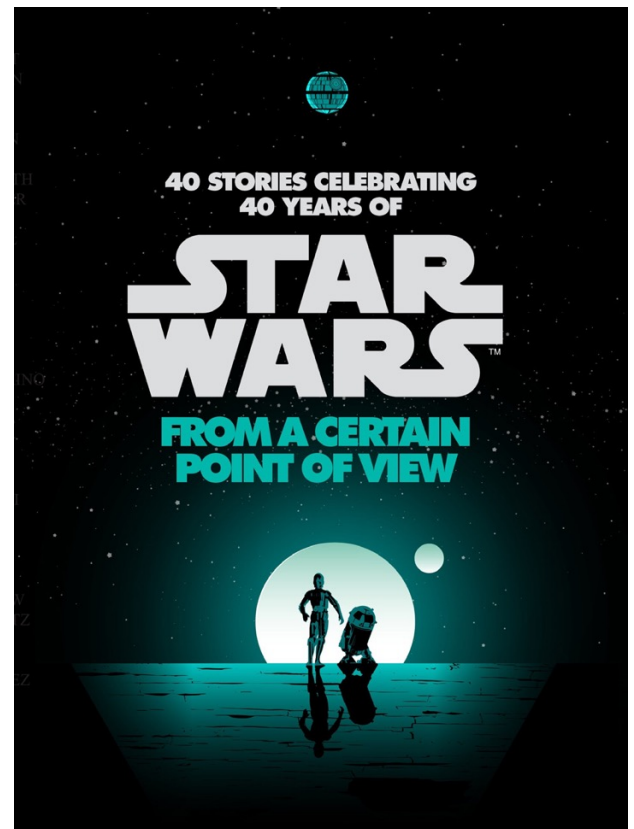
Some of the stories you'll encounter include: how to cover up the fact that you didn't shoot down the escape pod that you now realize carried the Death Star plans to Tatooine; dreams of one of the Jawas; a touching story from the perspective of the red droid with the bad motivator that was rejected by Luke's Uncle Owen; thoughts from a disgruntled Storm Trooper who would rather get a drink in the cantina than question people about droids they aren't even looking for; several stories from the various beings frequenting the cantina; why the bar tender really hates droids and won't serve their kind; who was that cloaked, long-nosed spy telling the Storm Troopers where to find the droids; tales from a variety of employees stationed on the Death Star; the contents of the incident report filed after Darth Vader force choked Admiral Motti; the last moments of Leia's adoptive parents on Alderaan; an ill-fated love affair on the Death Star as seen through the eyes of a mouse droid; the experiences of different rebels during the Battle of Yavin; where Mon Mothma was during the battle and how she was prepared for the worst; and a humorous take on the opening crawl from a critic.

The stories range from heart-breaking to hilarious, and they left me wanting to watch A New Hope again with an eye only on what's happening in the background. And if that isn't enough to encourage you to get the book, proceeds are donated to First Book, which provides books to teachers and children's organizations.

So there you have it - a combination of Star Wars, a wide range of stories, and it helps a non-profit organization. What are you waiting for? Get yourself a copy of From a Certain Point of View.

References:

From a Certain Point of View: 40 Stories Celebrating 40 Years of Star Wars, various authors, Del Rey, 2017



DEEP SKY DAZE by Mike Benson

What a month March 1996 was, with its odd weather and the eerie presence of the brightest comet I had ever witnessed! What a joy it was to view the ephemeral Comet Hyakutake (1996B) glide like a ghost across the northern reaches of the firmament. For many, I suspect, was a first—this naked-eye, dirty, slushball, invading our seemingly unchanging skies. I found myself losing patience with the clouds and haze.

The apparition kept me pretty busy for a while. I attended four star parties in a week. The weather only cooperated for one of them. That night was a wonderful experience. Lloyd Watkins, a former BSASer, joined me at the Wilderness program where I earned my living then. Together we gave 30 kids and an assorted group of staff and their kids a look at the sky.

A fairly young Moon and Venus provided the early evening entertainment. At just the right moment, Hyakutake popped over the treetops in the northeast quadrant of the sky. Green fuzball! With little haze and no clouds, the comet was clearly visible, even near the horizon. As it climbed toward zenith the tail could be seen for almost 10 degrees, stretching behind the coma—itsself, larger than the diameter of the Moon.

Lloyd and I were at it with our human visitors until about 11 PM. After they left, it was time to use the dark skies we had been granted. I eventually broke out the camera and got a series of photographs of the comet, two of which came out very well. One 10 minute shot displayed a tail stretching from ϵ Bootis to well past Arcturus—nearly 15 degrees

The Star Parties at Long Hunter Park were a bit hazy, but we got some opportunity to show the comet to folks. At Vanderbilt's Dyer Observatory on the 29th the cloud cover was so heavy that even the Moon was a poor target, but we did our best to entertain the 100 or so who attended, in spite of the weather.

There wasn't a lot of time for looking beyond the shallow sky. Perhaps April will show us some improvement and not keep us quite so active in the public eye. Astronomy day, however, will require some effort. I'm sure the club will need all the help they can get (hint, hint!).

All in all, March 1996 will be one for the scrapbooks, full of great memories.

With the arrival of March, winter appears to have done its worst. The ever changing (but always familiar) sky now shows a less gaudy, but equally interesting, face. The days are lengthening and we're beginning to lose our early evening viewing times. By the end of the month, the winter Milky Way will be near the western horizon at twilight and our deep-sky concentration must focus on the constellations of Ursa Major, Leo, Cancer, Hydra, Crater, Corvus, and Antlia which dominate the meridian from mid-evening. There are myriad galaxies—some showy, many requiring some serious star

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DEEP SKY DAZE, continued

hopping. In places they are so thick you can put two or three in the same moderately powered field at the same time. Whether you are working on your Messier or Herschel lists, or just out for an evening of poking around to see what you can find, grab each dark, clear night when it comes, because the weather is fickle and you may not get a lot of prime deep sky time at this season.

But, before you head to the faint fuzzies, plan on a few minutes to locate Mercury and Venus, both of which are starting to grace the evening skies. By the 3rd of March both will be about a degree apart very low to the western horizon just before full twilight. Venus will gradually move east and higher in the sky during the month. Mercury however, true to its name, will quickly rise to its maximum eastern extension. By the 15th it will be 18° from the sun and much more visible.

This month's star hop will be limited to four basic, easily found, locations (two in Ursa Major and two in Leo) and look at fourteen or fifteen interesting objects—all but one, galaxies.

Head, first, to **Merak (β Ursae Majoris)**. You know it! the more southerly of the two pointer stars in the Big Dipper! **M-108 (NGC 3556)** can be found a bit over a degree to the SE at the end of a short string of 7-9 magnitude stars. It's a large (8' X 2'), nearly edge-on, spiral with substantial mottling to be seen on a good night with anything larger than 8" of aperture. Another $3/4^\circ$ SE brings you to **M-97 (NGC 3587)**, the evening's only non-galaxy, the "Owl" nebula. This 11th magnitude planetary nebula is 2.5' in diameter and has some irregular dark patches which may be visible through a large instrument in a dark sky. I have only had hints of these patches (the "owl's eyes" in astrophotos) in my 8" under the most exceptional of circumstances.

Staying in the Dipper, move east to **Phecda (γ)** the other star marking the bottom of the dipper. Half a degree SE is 10th magnitude spiral, **M-109 (NGC 3992)**. It's about twice as long as it is wide, and has a brighter, fuzzy core; the rest is a soft haze. I've never been able to get much of a sense of structure from visual observation.

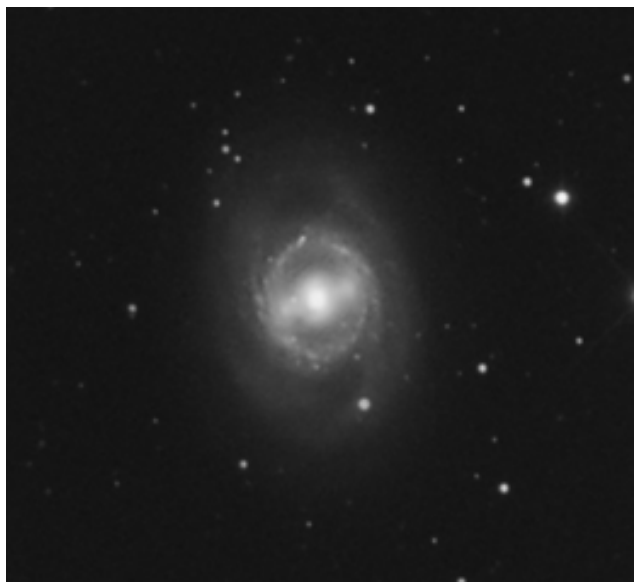
While we're in this general location, there's a pretty field nearby which will show you at least two galaxies on the Herschel 400 list and a couple others if the light bucket is big enough. From M-109 head due north about 2° . With a 100X field, 10th magnitude elliptical, **NGC 3998**, is a fairly bright oval with a somewhat off-center, nearly stellar core. Place it near the NNE edge of your field of view. Now look toward the south edge of the field and you should have no trouble with NGC 3982. At 11th magnitude it seemed like a fuzzy, extended star in my 8" on a night of a bit better than average seeing. A darker sky



M-109

DEEP SKY DAZE, continued

or larger instrument should give you a somewhat oval spiral with a much brighter center. Somewhere in between these two galaxies, and a bit to the west are two others (NGC 3972 and 3977) which may, or may not, be visible, depending on the quality of seeing and the amount of light gathering power you have at your disposal.



M-95

Now, strike the tents and head for Leo! Go straight to the heart of the lion, **Regulus**. Put this beautiful B7 star near the north of a moderately powered ocular and sweep due east about 8° . Be careful! **M-95 (NGC 3351)** is a fully face-on barred spiral with a stellar core and a faint haze that marks the arms. It's easy to skip right over it in smaller scopes, mistaking it for a star. A lot of aperture is needed to display the bar. If you use an eyepiece with a field of view of a degree or better, you will find **M-96 (NGC 3368)** about $40'$ ENE with a bright, non-stellar center. In truth, I found M-96 first and had to hunt down M-95.

M-105 (NGC 3379) is just a short hop away, a bit less than a degree NNE of M-96. This round elliptical has a couple of added attractions, **NGC 3384** and **3389**, forming a small isosceles triangle in a single field of view. The latter two were first documented by William Herschel and 3384 is on the Herschel 400 list. If you have seen the Messier poster from Sky Publishing, the marvelous spiral shown with M-105 is NGC 3384.

Finally, sweep east about 7° ; you'll find an asterism of 7-8 magnitude stars resembling a "Y" if north is reversed in the telescope you are using. It's a little over a degree south of θ Leonis. Less than a degree to the east are **M-65 (NGC 3623)** and **M-66 (NGC 3627)** which make an isosceles triangle with NGC

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Next BSAS meeting
March 21, 2018, 7:30 pm

Cumberland Valley
Girl Scout Council Building
4522 Granny White Pike

Keith Rainey: Equipment Tune-up! Dos and don'ts of telescope maintenance. Mirrors, Lenses, and eyepieces. We will talk about Newtonian collimation and some of the ways to do it.

DEEP SKY DAZE, continued

M-66, M-67, NGC 3628

3628. The latter, nearly 12' long by 2' wide, is seen nearly edge on. The Messier objects are both barred spirals—open, smaller, and much brighter than 3628. This is another of those great trios visible through any ocular with a 1° field.

M-65 is the most westerly of the trio. If you drop just a tad south and a degree west to just the other side of the “Y” asterism you will find **NGC 3593**, another spindle shaped spiral like 3628. Oriented E-W, this companion of **M-65** and **66**, and 3628 is much fainter at 11th magnitude. It has a large central bulge, a bright center and a dust lane which may be visible in larger instruments.

With these galaxies, the tour is over for this time. Next month we do battle with one of the most potentially frustrating areas of the sky, “The Realm of the Galaxies”; something like the Planet of the Apes, perhaps?

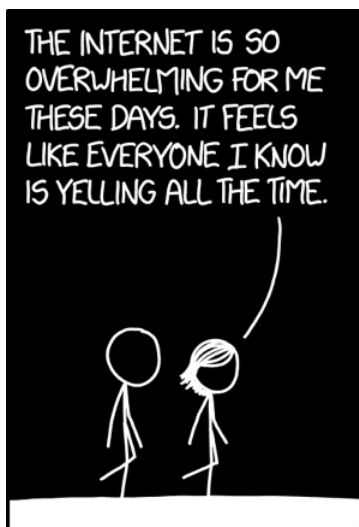
Clear skies!

Image Credits:

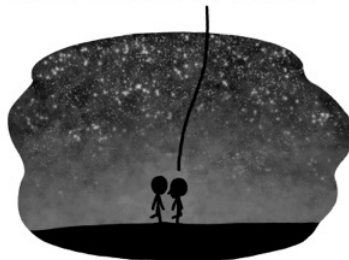
M-109: Hunter Wilson

M-95: Martin C. Germano

M-65, M-66, NGC 3628: Hunter Wilson

xkcd

THAT'S WHY IT'S NICE TO UNPLUG. LEAVE THE PHONES AT HOME, GO FOR A WALK, AND LOOK UP AT THE STARS. IT HELPS YOU FOCUS ON WHAT REALLY MATTERS.



Barnard-Seyfert Astronomical Society
Minutes of a Regular Meeting of the Board of Directors
Held On Wednesday, February 7, 2018.

The regular meeting of the Board of Directors of the Barnard-Seyfert Astronomical Society was held February 7, 2018, in the board room at the Girl Scouts Center, 4522 Granny White Pike, Nashville, TN 37204. Present were Mike Benson, Spencer Buckner, Gary Eaton, Drew Gilmore, Bud Hamblen, K C Katalbas, Johanna Keohane, Todd Nannie, Keith Rainey, and guest Meghan Keohane. A quorum being present, the meeting was called to order at 7:30 PM. Gary asked for a motion to approve the minutes of the January 3, 2018, meeting. Spencer so moved, Todd seconded, and the minutes were adopted without discussion by unanimous voice vote. Tom Guss had given the amounts of the bank balances to Gary before the meeting. The checking account contained \$5,507.20 and the savings account \$4,156.77. Keith reported that there were 147 members on the rolls.

The club reimbursed Gary \$1,427.93 for the purchased loaner telescopes, as resolved at the January, 2018, board meeting and \$103.21 for food at the December dinner. Spencer donated a goto-to dob to club loaner program. The loaner telescopes will be available at the February general meeting.

Programs for upcoming meetings were discussed. The June program was changed to be a "What's Up" for summer. Dannika Wellington will be invited to make a presentation in October.

The problems with some members not receiving the Eclipse attachment has been resolved. Members should make sure their own mail services do not strip or block attachments.

Club branded apparel was discussed. Joanne will set up a surveymonkey to ask for member input.

It was decided in principle for the club to get up-to-date brochures and other marketing material.

It was noted that Bells Bend will have the annual Outdoor Expo in April. The club usually has a presence at this event.

K C volunteered to put a club account on Instagram.

Resolution 2018-02-07: To promote interest in astronomy, the board resolves to award prizes for the best astronomy-related project at the 2018 Middle Tennessee Science and Engineering Fair, March 17, 2018, at the Janet Ayers Academic Center 4th floor Conference Center, Belmont University. First prize is a cash award of \$100, second prize is \$50, third is \$25, and all winners will receive in addition a 1-year individual membership, and be invited to speak at a meeting of the club. If there is not a qualifying entry, no prize will be awarded. Motion was made by Spencer, seconded by Todd, and carried unanimously by voice vote.

There being no further business, Gary asked for a motion to adjourn. Spencer so moved, Drew seconded, and the meeting was adjourned at 9 PM.

Respectfully submitted,

Bud Hamblen

Secretary

**Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held On Wednesday, February 21, 2018.**

The Barnard-Seyfert Astronomical Society held its annual pot-luck dinner and monthly meeting in the City Room of the Girl Scout Center, Nashville, Tennessee, on Wednesday, February 21, 2018. Twenty-six members signed in. Because the January 24 meeting had to canceled because of weather, no minutes were brought up for approval. Bud Hamblen reported that there was \$4,049 in the checking account as of February 20, 2018, and \$4,156 in the savings account. Gary recognized new members present at the meeting: John and wife Ann, Victor, and Greg.

Gary announced upcoming public star parties:

2/24/2018 from 6:30 to 8:30pm at Edwin Warner Park.

3/24/2018 from 8 to 10pm at Shelby Bottoms Nature Center.

Gary also announced the club Messier Marathon on 3/17-18/2018 from dusk to dawn at Mark Manner's Spot Observatory. Bring food and drink.

Gary displayed some photos provided by members and asked more members to send their photos to the club. Patrick Clark caught an Iridium flare, Don Horne imaged an Iridium flare, Butch Miller pictured the partially eclipsed Moon, and Theo Wellington photographed an eclipsed Moon.

The silent auction of astronomy items, to conclude at the end of the meeting, was announced.

One of the loaner telescopes was picked up at the meeting. We have more available.

Dr Terry Reeves presented "How to Run a Messier Marathon": what you need from the naked eye to binoculars to telescopes, where to begin, how to find the objects, and how to stay comfortable during the event. Books and charts mentioned included in part [Finder Charts of the Messier Objects](#) by Brent Watson, [The Next Step - Finding and Viewing Messier's Objects](#) by Ken Graun, [The Observing Guide to the Messier Marathon: A Handbook and Atlas](#) by Don Machholz, [The Year-Round Messier Marathon Field Guide](#) by Harvard Pennington, [Deep-Sky Companions: The Messier Objects](#) by Stephen J. O'Meara. Web sites mentioned included in part: <http://www.messier-objects.com/>, http://www.astro-tom.com/messier/messier_objects.htm, <https://lovethenightsky.com/>.

The Silent Auction brought in \$94.00. Thanks for participating.

There being no further business the meeting was adjourned at about 9:00 PM.

Respectfully submitted,

Bud Hamblen
Secretary



Dense field of stars from the core of the Milky Way
Image credit: [NASA, ESA, and T. Brown \(STScI\)](#)

FOR SALE ... TWO TELESCOPE COVERS

Scopestuff “telegizmos” supplied:

(1) left, model T309, “Continuous exposure 365 series” (advertised as/for outside use [24/7/65](#)) ... pretty heavy, well-made, I’d say near-mint quality except for 2”X3” stain (coffee?) on top - see photo. Used outside 4 or 5 times, otherwise always inside.

Length: 42”; circumference 58”. For 6”-8” SCT’s, maybe others. NEW LIST: \$75.00. SELL FOR \$50.00.

(2) right, model G3D standard “silvered” exterior. For 12”- 14” Dobs, “stand-up” storage. Length about 6’; circumference 92”. Always inside use; a little floor dirt evident in bottom hem, otherwise excellent.

NEW LIST: \$73.00. SELL FOR \$50.00.

Interest? Contact at jwwastro@yahoo.com Can bring to meeting.



From the President, continued

think of it, I wonder if getting these three telescopes brought all of that rain? We know there is usually a high correlation between poor viewing weather and wanting to try our new equipment! We still have additional funds available to purchase other items for BSAS that have been suggested by our members and will be making those decisions in the weeks ahead.

BSAS board member Johanna Keohane recently sent out a survey to see what type of BSAS merchandise our members might be interested in purchasing. She would like to give the board the results at our March 7th board meeting so if you haven't responded, please do so at your earliest convenience.

Gary Eaton

Messier Marathon Resources

BOOKS:

Finding and Viewing Messier Objects (Field Guide) by Ken Graun

Messier Observers Planisphere By Mike Krzywonski

The Observing Guide to the Messier Marathon: A Handbook and Atlas by Don Machholz

The Year-Round Messier Marathon Field Guide by Harvard Pennington

The Messier Objects by Stephen James O'Meara

ONLINE:

Messier-Objects.com: www.messier-objects.com

Astro-Tom.com: www.astro-tom.com/messier/marathon_order/messier_marathon.htm

Richard Bell: www.richardbell.net/marathon.html

10 Minute Astronomer: 10minuteastronomy.wordpress.com/messier-marathon-tools

SEDS.org: www.messier.seds.org/xtra/marathon/mm-tips.html

Larry McNish's Messier Marathon Planner: calgary.rasc.ca/darksky/messierplanner.htm



Become a Member of BSAS!
Visit bsasnashville.com to join online.

All memberships have a vote in BSAS elections and other membership votes. Also included are subscriptions to the BSAS and Astronomical League newsletters.

Annual dues:

Regular: \$25
Family: \$35
Senior/Senior family: \$20
Student:* \$15

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

About BSAS

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 bsasnashville.com. If you need more information, write to us at info@bsasnashville.com.

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 info@bsasnashville.com.