

# The ECLIPSE

February  
2016

*The Newsletter of the Barnard-Seyfert Astronomical Society*

## Next Membership Meeting:

February 17, 2016, 7:30 pm  
Cumberland Valley  
Girl Scout Council Building  
4522 Granny White Pike

**Topic:** *John Kramer: "Pop a Quark in it and begin enjoying the Sun with DayStar's Hydrogen-Alpha Eyepiece"*

## In this Issue:

President's Message	1
Observing Highlights	2
Book Review by Robin Byrne: The Book Nobody Read	3
Board Meeting Minutes January 6, 2016	7
Membership Information	10

## From the President:

I hope everyone had fun in the snow. Once the skies cleared, it looked real pretty with the gibbous to full Moon reflecting off the snow. Unfortunately it was also quite cold. We've had a few warm nights since, I hope some of you have made it outside. Perhaps you have gone out in the moments before dawn to admire the five naked eye planets in the sky, arching across from Mercury at the eastern horizon to bright Jupiter in the west.

Our January meeting was cancelled because of the snow. We will reschedule the telescope workshop for a future meeting, or possibly at one of our host parks.

Hard to believe that it has been 30 years since the Challenger tragedy. Each year in the last week of January, we pause with NASA to remember three particular losses, all within a calendar week. On January 27, 1967 the crew of Apollo 1 (Virgil "Gus" Grissom, Ed White, and Roger Chaffee) was lost in a fire in the command module while testing on the ground. On January 28, 1986, the shuttle Challenger suffered a catastrophic explosion on a too-cold morning launch. Crew: Michael J. Smith, Dick Scobee, Ronald McNair, Ellison Onizuka, Christa McAuliffe, Gregory Jarvis, and Judith Resnik. February 1, 2003, shuttle Columbia broke up 200,000 feet above Texas, a damaged wing coming apart during reentry. Crew: Rick D. Husband, William C. McCool, Michael P. Anderson, Kalpana Chawla, David M. Brown, Laurel Clark, Ilan Ramon. We should also remember our Russian friends lost: Vladimir Komarov (Soyuz 1), Vladislav Volkov, Viktor Patsayev, and Georgi Dobrovolski (Soyuz 11). Although we went through a period of time where we viewed space travel as too dangerous, now interest has revived in looking toward new destinations, thanks in no small part by those willing to build their own way into space. NASA has no formal program, but witness the popularity of #Journey to Mars.

All exploration is dangerous. Expeditions have been lost exploring our own world, let alone trying to travel in space. We still sail the seas and climb the mountains of Earth. The astronauts recognize the danger, and still go. No mission to space has lacked for those who want to travel just a little



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## Observing Highlights February and March

### Open Clusters

NGC457 (*ET*), M103,  
NGC654, NGC663,  
NGC884/869 (*Double Cluster*),  
M34, M45 (*Pleiades*),  
M36, M37, M38, M35, M41,  
M50, M47, M46, M93, M48,  
M44 (*Beehive*), M67,  
NGC2264 (*Christmas Tree*)

### Variable Stars

Beta Persei (*Algol*),  
Omicron Ceti (*Mira*),  
R Leporis (*Hind's Crimson Star*)

### Galaxies

M31 (*Andromeda*), M32, M110,  
M33 (*Triangulum*),  
M74, M77, M81, M82

### Globular Clusters

M79 Nebulae  
M76 (*Little Dumbell*), NGC1499  
(*California*),  
M1, M42 (*Orion*), M43, M78,  
NGC2392 (*Eskimo*)

### Multiple Star Systems

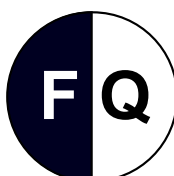
Eta Cassiopeiae,  
Gamma Arietis,  
Gamma Andromedae,  
Beta Orionis (*Rigel*),  
Alpha Geminorum (*Castor*)

## Upcoming Star Parties

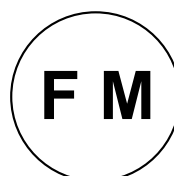
Saturday 2/6	Private Star Party <a href="#">Natchez Trace Parkway mile marker 433.5</a>
Saturday 2/13 6:30 - 8:30 pm	Public Star Party <a href="#">Shelby Bottoms Nature Center</a>
Friday 3/4 7:00 - 9:30 pm	Public Star Party <a href="#">Bowie Nature Park (Fairview)</a>
Saturday 3/5	Private Star Party <a href="#">Natchez Trace Parkway mile marker 412 (Water Valley Overlook)</a>



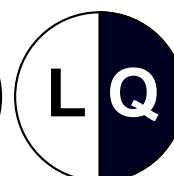
Feb 8  
Mar 8



Feb 15  
Mar 15



Feb 22  
Mar 23



Mar 1  
Mar 31

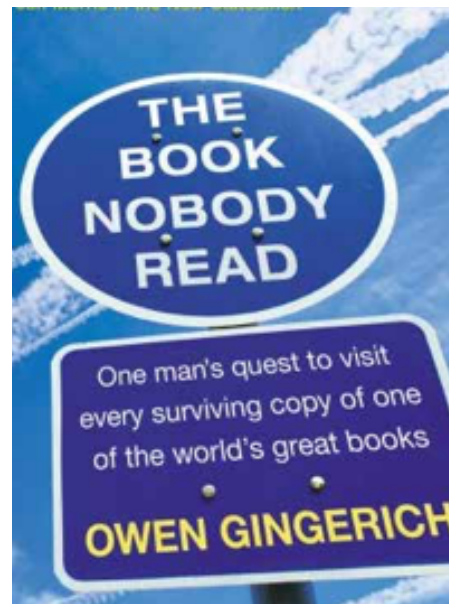
## Book Review: The Book Nobody Read Reviewed by Robin Byrne

“The Book Nobody Read: Chasing the Revolutions of Nicolaus Copernicus” by Owen Gingerich refers to Nicolaus Copernicus’ book “On the Revolutions of the Heavenly Spheres.” In 1959, Arthur Koestler wrote a history of early astronomy and said that nobody had actually read Copernicus’ book. Gingerich set out to see if that was actually true.

The story begins in 1970 when Gingerich was asked to be part of a committee making plans for the upcoming 500th anniversary of Copernicus’ birth, which would be the focus of many celebrations in 1973. Talking with others on the planning committee, Koestler’s comment about nobody reading “De Revolutionibus” sparked an idea. Find as many copies of the first and second editions to see if there are notes in the margins (a pretty good indicator of having actually read the book).

That seemed simple enough... Three decades later, Gingerich completed “An Annotated Census of Copernicus’ De Revolutionibus.” “The Book That Nobody Read” chronicles those 30 years and many of the surprising events along the way. As a collector of rare books, Gingerich was a natural for such a project. He had connections, both in academia and in the book collection circles, to help him get started. He had the credentials to get access to rare book collections in many universities and museums. And he knew the kinds of things to look for when studying the books, including the type of paper used and how the binding was made. When De Revolutionibus was published, books were not sold already bound, but as loose sheafs of paper, It was up to the purchaser to have the pages bound, so the variety of bindings are as extensive as the number of books sold.

What makes this book so interesting are all of the unexpected twists and turns Gingerich encountered. For many books, there is not enough information to determine the original owner. But with others, some detective work revealed who first bought the book and was responsible for the marginal notes. The process of figuring out who bought the books is fascinating, frustrating, and, in some cases, disheartening when discovering that they were on a completely wrong trail.



### Book Review: The Book Nobody Read, continued

In his quest for finding the owners, Gingerich became quite an expert at identifying handwriting, and could quickly recognize certain people from just a few words. However, in one case, he was stumped, until he realized that the person was using a new font that he had personally created. Many books were passed on between people, so there would be multiple hands to decipher. Add to that the tendency for students to copy word-for-word what their professor or mentor had written in their own copy, and you will find the exact same notes in multiple books, but in vastly different styles of handwriting.

Some of the books could be placed geographically due to how they were edited. The Catholic Church had sent out a list of parts to be crossed out and changed, to keep the text in line with the current geocentric view of the heavens. A picture of one section from Galileo's copy shows that he did dutifully cross out the offending lines, but did so lightly enough that the words could still be easily read. Interestingly, only copies in Italy had the "required" edits, while other Catholic countries, such as France and Spain, ignored the edict.

As Gingerich continued his quest to find all known copies of the first two editions, he, naturally, became an expert on *De Revolutionibus*. As such, he found himself involved in more than one case of investigating stolen books. With his extensive list of each book, which includes measurements of page size, type of paper, binding, and, of course, the annotations that were made, he was an invaluable source for identifying specific copies. He could also find when copies had been altered. If a few pages were lost, it was not uncommon to borrow pages from another, incomplete, version, to create a single complete copy. Unfortunately, this also means that it ends up mixing versions from more than one owner. One more difficulty when trying to determine original ownership.

When Gingerich began his hunt for these books, the iron curtain was alive and well. His description of his adventures in the USSR and East Germany are not only interesting concerning the book, but also as a glimpse of our recent political past. If you enjoy the history of science coupled with a detective story, then you will certainly enjoy "The Book Nobody Read."

#### References:

The Book Nobody Read: Chasing the Revolutions of Nicolaus Copernicus by Owen Gingerich, Penguin Books, 2004

## From the President, continued

farther than the last person.

“The conquest of space is worth the risk of life.”

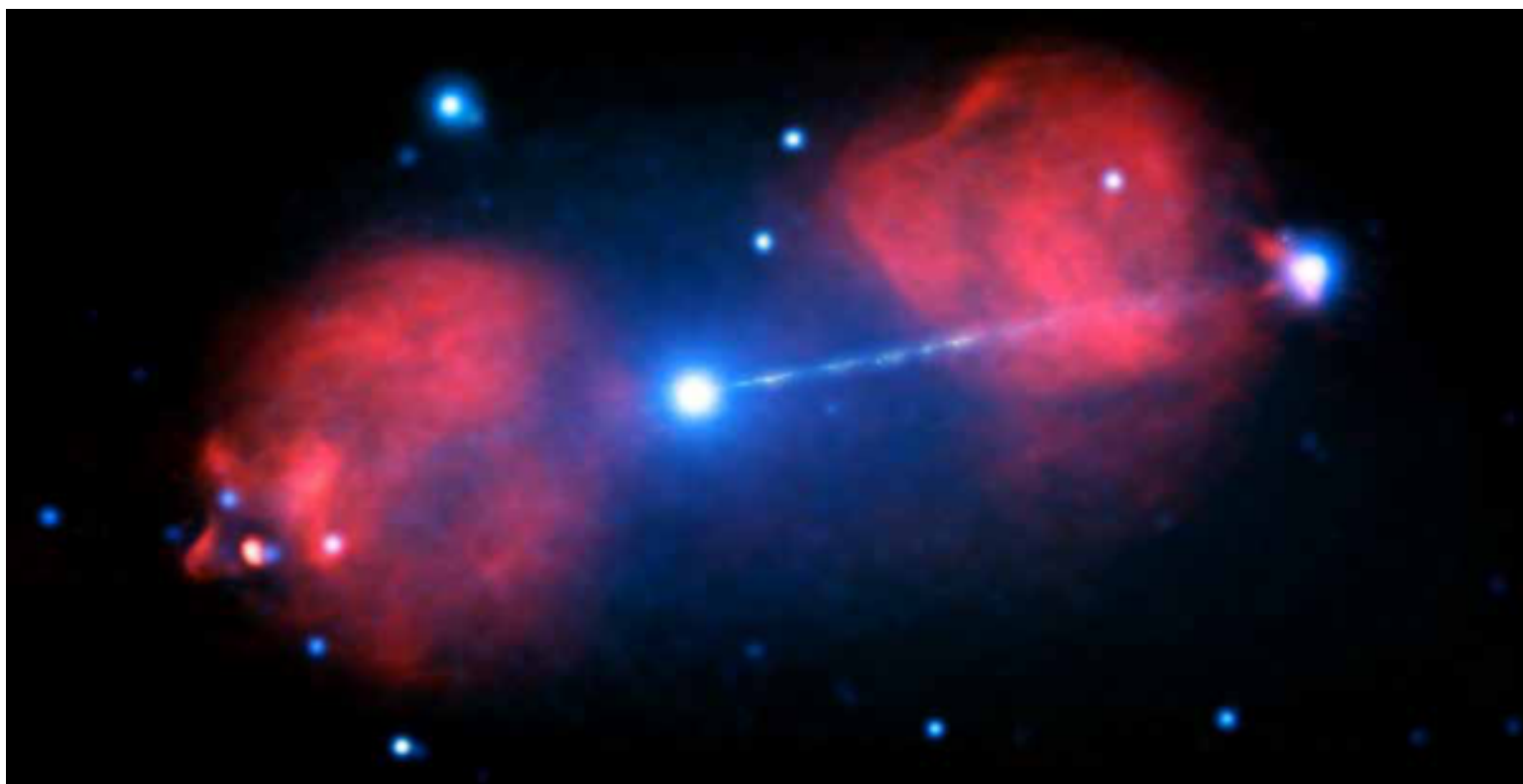
-Gus Grissom

So if you get a good evening, stand and watch the International Space Station fly over. Wave at the astronauts. Maybe someday we will all be able to witness the amazing view of our own planet from space - and the stars in deepest night. Space tourist Anousheh Ansari described it this way:

“But that is not the best part. The best part and by far my favorite view up here is the view of the universe at night. The stars up here are unbelievable... It looks like someone has spread diamond dust over a black velvet blanket. The Milky Way is easily visible... like a rainbow of stars over the entire earth...”

Clear skies,

Theo Wellington



The Chandra X-ray image of Pictor A shows a spectacular jet that emanates from a black hole in the center of the galaxy and extends across 300,000 years toward a brilliant hotspot and a counter jet pointing in the opposite direction.

Credits:

[X-ray: NASA/CXC/Univ. of Hertfordshire/M. Hardcastle et al.; Radio: CSIRO/ATNF/ATCA](#)

**Barnard-Seyfert Astronomical Society**  
**Minutes of a Regular Meeting of the Board of Directors**  
**Held On Wednesday, January 6, 2016.**

The regular meeting of the Board of Directors of the Barnard-Seyfert Astronomical Society was held January 6, 2016, at the Girl Scouts of Middle Tennessee, 4522 Granny White Pike, Nashville, TN 37204. Present were Mike Benson, Gary Eaton, Tom Guss, Bud Hamblen, Kris McCall (by telephone) and Theo Wellington. A quorum being present, Theo Wellington called the meeting to order at 7:41 PM. Gary Eaton made a motion to adopt the minutes of the December board meeting. Theo Wellington seconded, and the minutes were approved by a unanimous voice vote.

Because Bob Norling had retired as treasurer, the board needed to authorize new signers for the society's bank accounts. Tom Guss as treasurer would be the primary signer, and Gary Eaton volunteered to be the back-up signer if Tom were to be unavailable.

Resolution 2016-01-06-1: The Barnard Seyfert Astronomical Society authorizes Tom Guss and Gary Eaton to sign checks and conduct other necessary and proper business concerning the society's bank accounts. Bud Hamblen made the motion, Mike Benson seconded, and the motion was adopted by unanimous voice vote.

First South Financial Credit Union, Memphis, Tennessee, donated \$500 to the society. Gary Eaton suggested that the society earmark those funds for eclipse glasses for the August 21, 2017, total eclipse of the Sun. Giving out eclipse glasses for the event would help prevent eye injuries and would raise the society's profile. Theo and Kris said that glasses might cost about 30 cents each if a large enough order was placed. After discussion there was general agreement to reserve the money to purchase eclipse glasses.

Resolution 2016-01-06-2: To reserve the \$500 donated by First South Financial Credit Union for the purchase of solar eclipse viewing glasses for the August 21, 2017, total solar eclipse. Gary Eaton so moved, Mike Benson seconded, and the motion was adopted by unanimous voice vote.

Theo reported that we have received the permit from the National Park Service to use the mile marker 435.3 parking lot and the Water Valley Overlook for private star parties. The dates are for New Moon Saturdays, or for Friday or Sunday if the sky was predicted to be cloudy on Saturday.

Gary noted that another astronomy club had a popular challenge object column in its newsletter. The newsletter item would feature an astronomical object, not necessarily difficult, and club members could report at the regular meeting whether they saw the object. Mike said he already had material

Send your cool astrophotos to  
[eclipse@bsasnashville.com](mailto:eclipse@bsasnashville.com)!

## Minutes of the Regular Meeting of the Board of Directors, continued

on Messier objects that could be adapted.

Mike noted that the hotel rooms for the 2017 Astronomical League convention in Casper, Wyoming, were already half filled. The convention dates include the day of the solar eclipse and Casper is very near the centerline of the eclipse path.

There being no further business, Mike made a motion to adjourn the meeting, Tom seconded, and the meeting was adjourned at 8:40 PM.

Respectfully submitted,

Bud Hamblen  
Secretary

**Due to inclement weather, there was no membership meeting in January 2016.**

Next BSAS meeting  
February 17, 2016, 7:30 pm  
Cumberland Valley Girl Scout Council Building  
4522 Granny White Pike

*John Kramer: "Pop a Quark in it and begin enjoying the Sun with DayStar's Hydrogen-Alpha Eyepiece"*

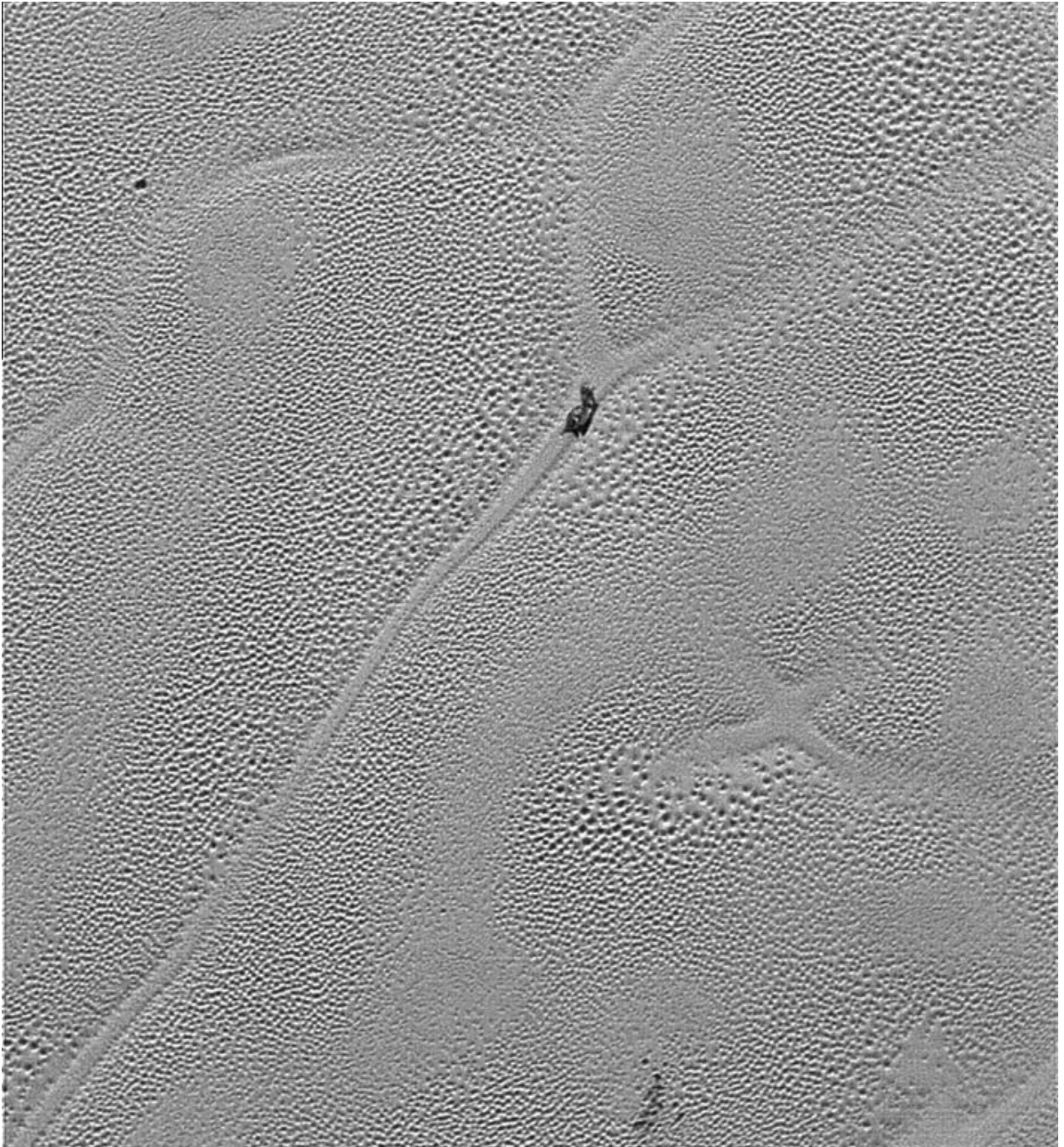
*John is a member of the [Murfreesboro Astronomy Club](#), enjoys outreach and has a nice blog "[At the Eyepiece](#)." He also does occasional live streams of the view through his telescope! He's a Solar Activity Affiliate, a reviewer of gear, and he's got a Quark eyepiece that will go nicely with solar observing as we count down to the 2017 Eclipse.*

*Mark your calendars!*

***The first Pickett-Pogue Dark Sky Park Astronomy Weekend April 1-3.***

*Bunkhouse and meals on Saturday, breakfast on Sunday for \$50.*

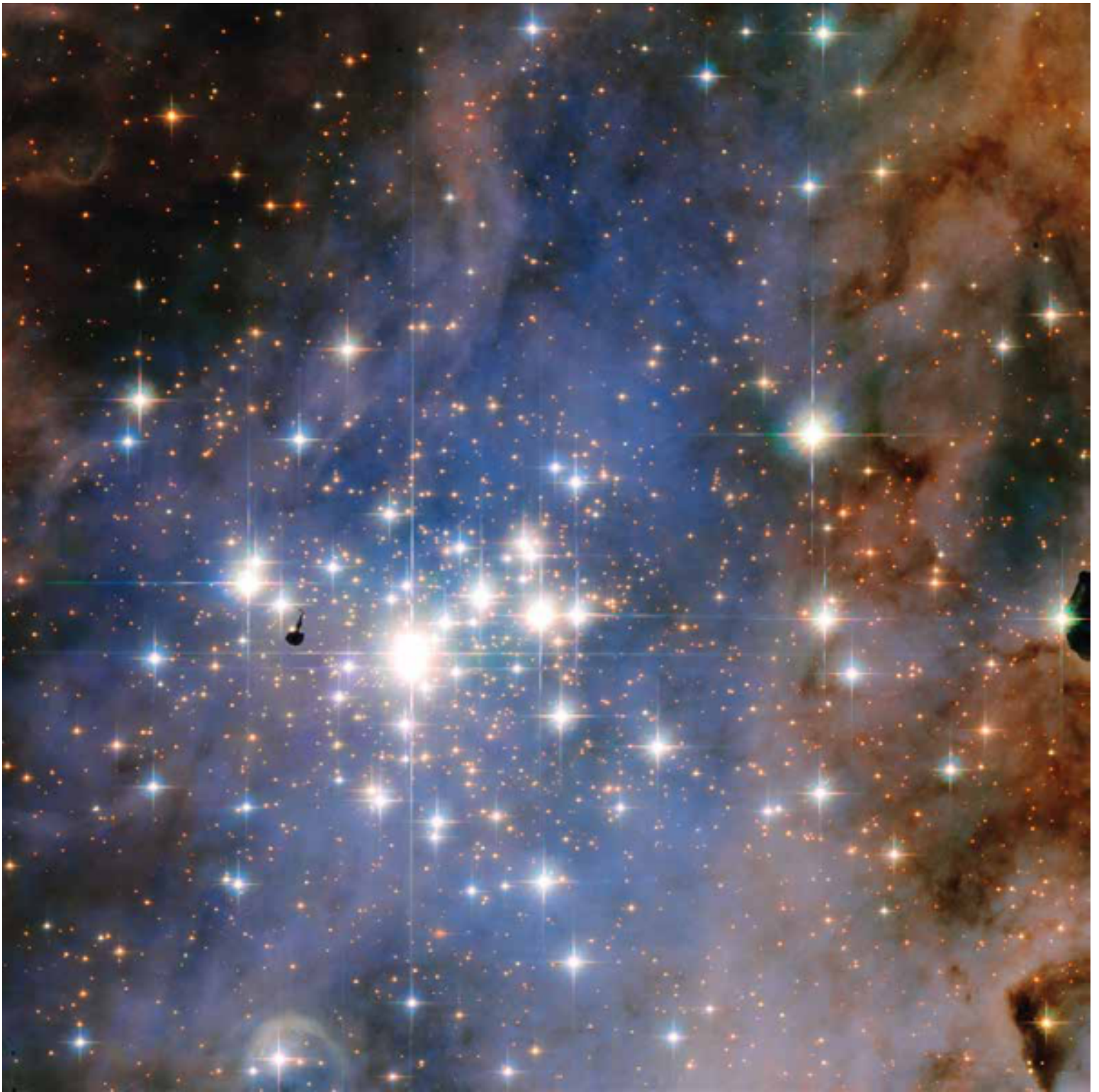
*Astronomy presentations and hiking and outdoor opportunities in this scenic park.*



Transmitted to Earth on Dec. 24, 2015, this image from the Long Range Reconnaissance Imager (LORRI) extends New Horizons' highest-resolution swath of Pluto to the center of Sputnik Planum, the informally named plain that forms the left side of Pluto's "heart." Mission scientists believe the pattern of the cells stems from the slow thermal convection of the nitrogen-dominated ices. The darker patch at the center of the image is likely a dirty block of water ice "floating" in denser solid nitrogen, and which has been dragged to the edge of a convection cell. Also visible are thousands of pits in the surface, which scientists believe may form by sublimation. Image is about 45 miles (72 kilometers) wide.

[Credits: NASA/JHUAPL/SwRI](#)





Some of the Milky Way's "celebrity stars" – opulent, attention-getting, and short-lived – can be found in this Hubble Space Telescope image of the glittering star cluster called Trumpler 14. It is located 8,000 light-years away in the Carina Nebula, a huge star-formation region in our galaxy. Because the cluster is only 500,000 years old, it has one of the highest concentrations of massive, luminous stars in the entire Milky Way.

Credit: [NASA, ESA, and J. Maíz Apellániz \(Institute of Astrophysics of Andalusia, Spain\)](#)

[Acknowledgment: N. Smith \(University of Arizona\)](#)



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\$30 Family  
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\$12 Student\*

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

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

## 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](http://bsasnashville.com). If you need more information, write to us at [info@bsasnashville.com](mailto:info@bsasnashville.com) or call Theo Wellington at (615) 300-3044.

## 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](mailto:info@bsasnashville.com).