

The ECLIPSE

December
2015

The Newsletter of the Barnard-Seyfert Astronomical Society

Next Membership Meeting:

December 16, 2015, 6:30 pm
Cumberland Valley
Girl Scout Council Building
4522 Granny White Pike

Potluck dinner and silent auction

Guest Speaker: *Dr. David Weintraub,
Vanderbilt University
"Cepheid Variable Stars, E. E. Barnard,
Edwin Hubble, and the Age of the
Universe"*

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From the President:

December... another holiday season, another chance to get new gear to use in the new year. Judging by the emails I get, at least a few youngsters will get a telescope for Christmas. Some have been inspired by star parties, which is great! Space really does interest young folks; our goal should be to see that last beyond opening the box. So if you know someone who is getting a first telescope, invite them to our January meeting, which is devoted to learning how to use that new gear. In years past, we've had breakout groups around the room with examples of the various telescopes set up. We also encourage people to bring their telescope so we can help set it up. We don't want them to join the many telescopes gathering dust in closets.

If you are considering buying a telescope, here is a well written article that lays out many of the different things you should keep in mind: <http://www.scopereviews.com/begin.html>

Winter means it gets dark early, so it is a good season to bundle up and step outside for a few minutes in the brisk air to learn a few constellations and star names. Our guide to the winter sky, Orion the mighty hunter, is now easy to spot for most of the night. His two faithful dogs follow him, so grab a star chart and see how many of the stars you can find. Then, go to Globe at Night to enter your observations to help understand the extent of local light pollution! Yes, there are phone apps for that.

December is also our annual pot luck club dinner. The club will provide the meat and drinks; everyone is invited to bring a side dish or dessert. Bring a friend or two, there is always lots of food! Remember that the meeting starts early, at 6:30, to give us plenty of time to eat and socialize. We also will have a silent auction table. Bring any spare astronomy related gear/clothes/books etc, and put it out on the table. The auction benefits the club equipment account. Our speaker for the evening is Dr. David Weintraub



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Observing Highlights December and January

Multiple Star Systems

Gamma Delphini
Polaris

Globular Clusters

M15, M2
M72, M75
M30, M79

Variable Stars

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

Galaxies

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

Open Clusters

M73, M29,
M39, M52,
NGC457 (*ET*),
M103, NGC654, NGC663,
NGC884/869 (*Double Cluster*),
M34, M45, M36, M37, M38

Nebulae

NGC7000 (*North America*),
IC5146 (*Cocoon*),
NGC7293 (*Helix*),
M76 (*Little Dumbell*),
NGC1499, (*California*),
M1, M42 (*Orion*),
M43, M78

Upcoming Star Parties

Friday 12/11 6:30 - 9:00 pm	Public Star Party Bowie Nature Park (Fairview)
Saturday 12/12	Private Star Party Natchez Trace Parkway mile marker 433.5
Saturday 12/19	Public Star Party Edwin Warner Park
Saturday 1/9	Private Star Party Natchez Trace Parkway mile marker 412 (Water Valley Overlook)



Dec 11
Jan 9



Dec 18
Jan 16



Dec 25
Jan 23



Dec 3
Jan 1

Happy Birthday Nicolas-Claude Fabri de Peiresc by Robin Byrne

This month we celebrate the life of a man who pursued many areas of interest, with astronomy being just one of them. Nicolas-Claude Fabri de Peiresc was born December 1 1580 in the Castle of Belgentier, France. His father was very wealthy and was a higher magistrate in Provence; he was also the town surgeon. His family moved to Belgentier to avoid an outbreak of plague. As a teenager, he found an ancient Roman coin on the family land, which sparked his interest in collecting ancient coins and studying antiquities. Peiresc began his education in Aix-en-Provence, but a combination of war and plague forced him to move from school to school, ending up at Tournon, where he studied philosophy and got his first taste of astronomy. He spent several years traveling throughout Europe meeting various scholars, visiting ancient sites and museums. During his travels, Peiresc became interested in law, getting his degree in law from the University of Montpellier in 1604.



After graduation, Peiresc spent three years traveling with his patron, Guillaume du Vair, working as his secretary. They spent time in Paris, London and Flanders. In 1607, Peiresc returned to Aix to fill his uncle's position in the Provence Parliament. He remained in this position for the next eight years.

Peiresc had the financial resources to indulge his various interests. One area included plants and animals. His country home, Belgentier, being the third largest in France, could accommodate his varied collections. His landscaping included trees and flowers imported from around the world. He also kept a variety of wild animals, even playing host to an elephant that was en route to Marseilles. In the house, his collections of sculptures, paintings and medals filled the rooms. One of the items in his collection is now on display at the Louvre: an ivory piece sculpted by Barberini.

Peiresc considered himself a patron of the sciences. In 1634, he opened his house to local surgeons to use his facilities to perform dissections of cadavers. Their studies

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Nicolas-Claude Fabri de Peiresc, continued

led to the discovery of chilferous vessels in the small intestines. Collaborating with Gassendi (who stayed in Peiresc's house for three years), they dissected eyes from various animals to develop a theory of vision which correctly verified Kepler's ideas that the eyes use lenses to form images on the retina. They realized the projected image would be upside down. They incorrectly thought the retina had a means of correcting the image orientation, rather than the brain providing the inverting mechanism.

In 1610, Peiresc heard of Galileo's discoveries with his telescope. Contacting his brother in Paris, Peiresc had various lenses made for himself. He then built an observatory on the top of his house where he housed his homemade telescope. From here, he observed the moons of Jupiter. He was one of the firm supporters of Galileo's scheme for naming the moons after the Medici family. For the next two years, Peiresc mostly observed Jupiter's moons, measuring their motions and creating tables of their positions. While scanning the skies, Peiresc saw a fuzzy patch in a region below Orion's belt. He had discovered the Orion Nebula, even coining the word "nebula" for such fuzzy objects.

In 1635, there was a predicted solar eclipse. Peiresc assembled a team of observers with equipment to observe the eclipse from various locations around the Mediterranean. Using the eclipse timings, he was able to show that the length of the eastern side of the Mediterranean was 1000 km shorter than previously thought. He used a similar technique to improve longitudes on maps, including drawing the first known map of the Moon.

When Galileo was put on trial for heresy, Peiresc wrote a letter to Cardinal Barberini (who became Pope Urban VIII). In the letter, he supported Galileo and condemned the church. Another of Galileo's supporters, Campanella, spent 26 years in prison for his statements. When he was released, Peiresc took him in, and provided money and transportation to help him get back on his feet.

In his later years, Peiresc began writing a history of Provence, but died before it was completed. He was also a prolific writer of letters to various European intellectuals and artists, including the Belgian painter Rubens. His collection of letters were published widely after his death, many of them providing insights into the minds of the great thinkers of the time.

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Nicolas-Claude Fabri de Peiresc, continued

Peiresc died June 24 1637 in Aix-en-Provence. In 1935, one of the craters on the Moon was named after him, and in 1993, an asteroid was named 19226 Peiresc. His varied interests, including astronomy, means Peiresc has left a legacy in many areas. From astronomy to archeology to anatomy, and much much more, Peiresc made contributions both personally and through his support of others. The next time you gaze at the Moon, look toward the southeastern limb, try to find Crater Peiresc, and think of the man who made so many contributions to our world.

References:

[Nicolas-Claude Fabri de Peirsec - Wikipedia](#)

[Nicolas Claude Fabri de Peiresc - New World Encyclopedia](#)

From the President, continued

from Vanderbilt. Dr. Weintraub has written several books, among them “Is Pluto a Planet?” and “Religions and Extraterrestrial Life: How Will We Deal with It?” His talk for the dinner is “Cepheid Variable Stars, E. E. Barnard, Edwin Hubble, and the Age of the Universe.”

If you want to celebrate New Year’s Eve in a different way, head on up to Pickett State Park on New Year’s Eve to enjoy a “First Night” hike and star party under a wonderfully dark sky. Also, mark your new calendar and make time April 1-3 for an Astronomy Weekend at the park. See the flyer for more details, but the park hopes it will become an annual event. Some meals are provided; you can set up on the observing field at the group camp for the weekend. There will be daytime activities and workshops, along with time to just ask questions of fellow observers.

Clear skies,

Theo Wellington

There was no BSAS Board Meeting in November 2015.



A view from the "Kimberley" formation on Mars taken by NASA's Curiosity rover. The strata in the foreground dip towards the base of Mount Sharp, indicating flow of water toward a basin that existed before the larger bulk of the mountain formed. The colors are adjusted so that rocks look approximately as they would if they were on Earth, to help geologists interpret the rocks. This "white balancing" to adjust for the lighting on Mars overly compensates for the absence of blue on Mars, making the sky appear light blue and sometimes giving dark, black rocks a blue cast.

[Image credit: NASA/JPL-Caltech/MSSS](#)

Next BSAS meeting
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Cumberland Valley Girl Scout Council Building
4522 Granny White Pike

Annual Potluck Dinner and Silent Auction

*Guest Speaker: Dr. David Weintraub, Vanderbilt University
"Cepheid Variable Stars, E. E. Barnard, Edwin Hubble, and the Age of the Universe"*

*Potluck dinner, BSAS provides meat and drinks, bring a side dish / dessert
Also bring items for the silent auction table... anything from books to gear to astronomically themed clothing items.
Proceeds benefit our equipment account.*

Mark your calendars for two events coming up at Pickett State Park:

***The annual New Year's Eve hike and star gaze.**
Contact Monique at the park and she will find you accommodations if you come!*

***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.*

**Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held On Wednesday, November 18, 2015.**

The Barnard-Seyfert Astronomical Society held its monthly membership meeting for November at the Girl Scouts of Middle Tennessee, 4522 Granny White Pike, Nashville, Tennessee, on Wednesday, November 18, 2015. 16 guests signed in. President Theo Wellington called the meeting to order at 7:30 PM. Theo asked for a motion to approve the minutes of the October 2015, meeting as printed in the November 2015, edition of the Eclipse. Dr Spencer Buckner so moved, Chuck Schlemm seconded, and the minutes were approved with a unanimous voice vote. Theo reported that the club had \$1,703.53 in the regular account and \$1,619.64 in the equipment account as of November 4, 2015.

Theo announced that there are public star parties scheduled at Bowie Nature Park, Fairview, (12/11/15), Edwin Warner Park (12/19/15) and Pickett State Park, Jamestown, (12/31/15 and 4/1-3/16). A private star party is planned for Natchez Trace Mile Marker 435.3 (12/12).

Unfortunately Dr Rob Mahurin was taken ill and could not present his talk on "Symmetry, the Big Bang and You".

Gary Eaton reported results of sky brightness measurements at a number of BSAS observing sites during the dark of the Moon. The Water Valley Overlook (Natchez Trace Mile Marker 412) measured 20.8 magnitudes per square arc-second, the parking area at Natchez Trace Mile Marker 453.4, 20.25, Bowie Nature Park, 20.2, Long Hunter State Park, 19.5, Bells Bend Outdoor Center, 19.4, Edwin Warner Park, 19.3 and Shelby Bottoms Nature Center, 18.3. Shelby Bottoms was equivalent to being under a full Moon, Long Hunter, Bells Bend and Edwin Warner were classed as "suburban", Mile Marker 435.3 and Bowie Nature Park were "outer suburban", and Water Valley Overlook was "rural". [Secretary's note: Information on the Unihedron Sky Quality Meter used and sky quality measurements are on the web at <http://www.unihedron.com/projects/darksky/faq.php>]

Theo spoke briefly about urban star parties and the upcoming solar eclipse.

Chuck Schlemm reported that he and club member Lonnie Puterbaugh raised some money for charity at the recent GMX event by selling star names. Polaris was renamed "Fred" for the duration of that event.

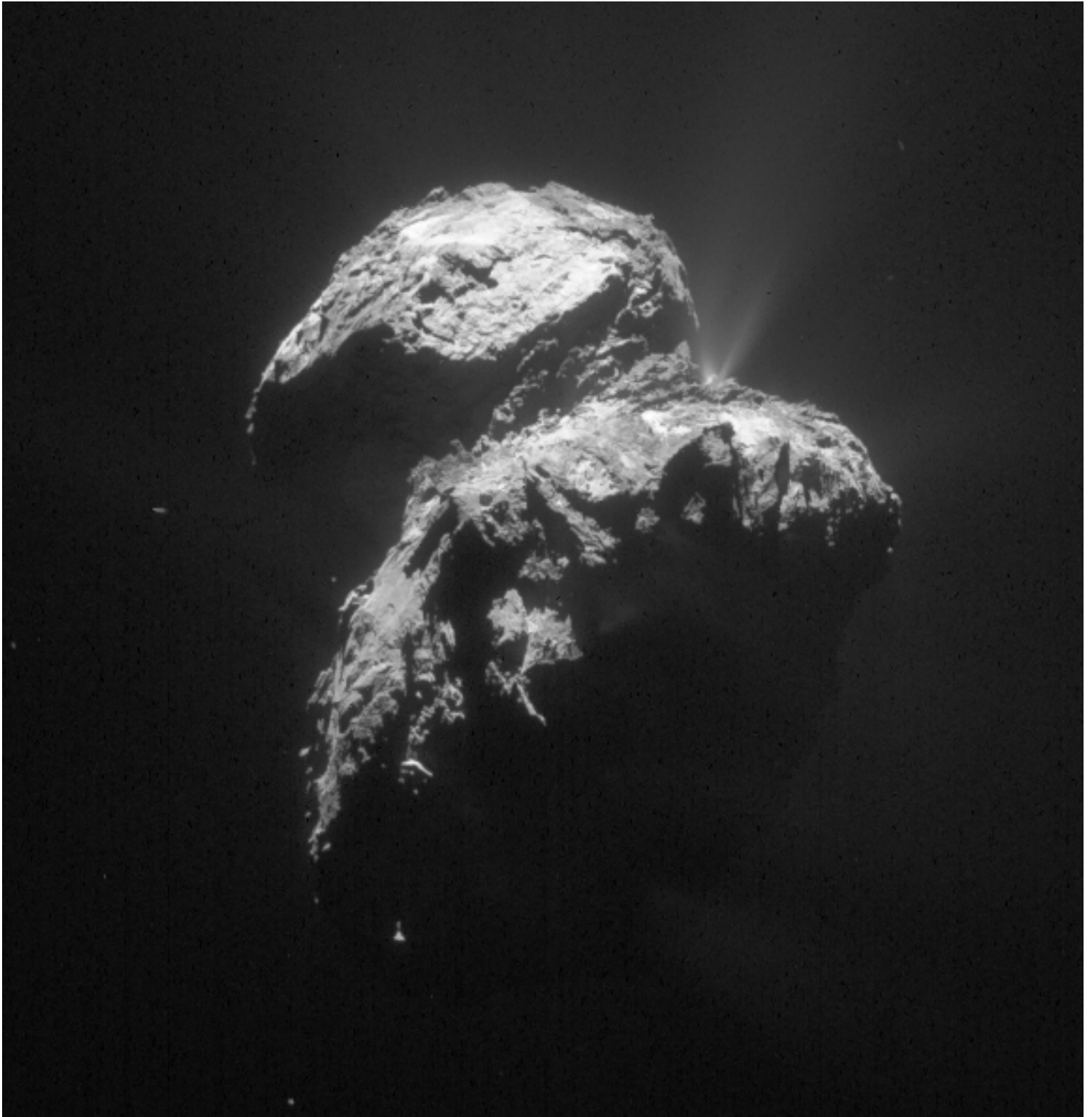
Dr David Weintraub was announced as the speaker for the December potluck dinner and silent auction meeting, December 16, 2015, at 6:30 PM. We also hope to have received the Astronomuy Magazine Deep Space Mysteries calendar, the Ottewell Astronomical Calender (the last one Guy Ottewell will publish) and the RASC Observer's Handbook in time for the meeting.

There being no more business, the meeting was adjourned at 8:55 PM.

Respectfully submitted,

Bud Hamblen

Secretary



Single frame enhanced NAVCAM taken on 22 November 2015, when Rosetta was 127.7 km from the nucleus of Comet 67P/Churyumov-Gerasimenko. The scale is 10.9 m/pixel and the image measures 11.1 km across. [Credits: ESA/Rosetta/NAVCAM - CC BY-SA IGO 3.0](#)



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There will be a two month
grace period before any
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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. If you need more information, write to us at 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.