



# ECLIPSE



*The Newsletter of the Barnard-Seyfert Astronomical Society*

Celebrating our 76th Year

March 2005

## March Membership Meeting

The BSAS Membership meeting will be on March 17th at the Adventure Science Center at 7:30 pm.

The March program will be a presentation by Mike Benson on the Astronomical League and the benefits that BSAS receives through its membership in the Astronomical League. In addition, Mike will give a report on his recent trip to the Hayden Planetarium at the Rose Center for Earth and Space in New York.

## FROM THE PRESIDENT

Get ready, get set . . . the clouds are finally ready to lift and we should soon have some starry nights again! Our climate in middle Tennessee is not the friendliest to astronomy, with November, December, January and especially February being the cloudiest months of the year. But statistically, our odds of clear skies start getting better from March onwards all the way through October.

Our club's next major event is of course the Messier marathon, scheduled for March 5<sup>th</sup> at the Water Valley Overlook dark sky site. The backup date is March 12<sup>th</sup>, again at Water Valley Overlook. Although Water Valley is a bit of a haul for many of us—it's located at mile marker 412 of the Natchez Trace—it offers magnitude 6 or better dark skies as well as excellent horizons. So our odds of finding lots of Messier objects should be excellent! Just remember to dress warmly (think layers) and bring a red-filtered flashlight.

For some truly excellent background on how to participate in and enjoy a Messier marathon, try going to <http://www.obspm.fr/messier/xtra/marathon/marathon.html>. This very rich website includes the history of the Messier Marathon concept, plus full listings and images of all the objects, observing tips, and many links to other interesting astronomy websites. Perhaps most usefully, the site includes various suggested orders in which to locate the Messier objects. Foremost among those ordered lists is one by Don Macholz, the discoverer of Comet Macholz that recently graced our skies. If you want further info on the Messier objects, there are a variety of excellent books available, including Macholz's *The Observing Guide to the Messier Marathon* and H. C. Pennington's *The Year-Round Messier Field Guide*.

One final point about the Messier Marathon—if you’ve been wondering about how to distinguish a globular star cluster from an open star cluster, nebula or galaxy, this is a great chance to see the differences! As I noted in my last column, the full Messier list includes 40 galaxies, 28 open star clusters, 29 globular clusters, 12 nebulae and one double star.

March and April will bring additional opportunities for stargazing. If you’re game for a longer drive, there’s the Mid-South Star Gaze at Rainwater Observatory in French Camp, Mississippi. Rainwater Observatory is located just off the Natchez Trace Parkway near mile marker 181, features a variety of telescopes, including a mammoth 32” reflector, and offers truly dark skies. The Star Gaze will be held April 6-9 this year and admission is a very reasonable \$20 (meals and lodging not included).

We’ve also been working to set up a visit to the Tamke-Allan Observatory (TAO) at Roane State Community College sometime in March or April and I’m hopeful we can get this scheduled in the next few days. TAO is located not far from Harriman, Tennessee, and is accessible via Exit 347 off of I-40. For full directions, please go to <http://www.rscscc.cc.tn.us/obs/visit.htm>. Dr. David Fields is the Coordinator of the Observatory and a valued friend of our club, so I really hope we can get a good-sized group together for the trip. One more thought: a visit to Tamke-Allan is a great opportunity not only for optical observing (weather permitting) and good fellowship, but also for radio astronomy, a particular interest of the TAO staff and students.

Finally, as I noted in my first column last year, it’s my goal to hold at least one public and one private star party each month. We’re working to set up those dates now. So hang on, your club stargazing activities are about to kick into high gear again!

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#### MAGAZINE SUBSCRIPTIONS FOR BSAS MEMBERS

We are always able to accept requests for new and renewal yearly subscriptions to SKY AND TELESCOPE and ASTRONOMY from our members in good standing.

The current yearly rates are as follows:  
SKY AND TELESCOPE: \$32.95  
ASTRONOMY: \$29.00

Checks or Money Orders should be made out to the Barnard-Seyfert Astronomical Society (BSAS) and sent to the following address:

BSAS  
P. O. Box 150713  
Nashville, TN 37215-0713

#### DUES INFORMATION

On your Eclipse mailing label is the expiration date for your current membership in the BSAS. There will be a two month grace period before any member’s name is removed from the current mailing list. You will be receiving a number of warnings informing you that your membership is expiring.

Dues per year are \$20.00 Regular (1 vote); \$30 Family (2 votes); \$15.00 Student (under 22 years of age)(1 vote); \$15 Seniors ( 65 years or older)(1 vote); \$25 Senior Family ( 65 years or older)(2 votes). Please call President, John Harrington, (615) 269-5078 if you have questions. Dues can be sent to:

BSAS  
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#### THE ECLIPSE NEWSLETTER

Editor: Bill Griswold  
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#### BSAS Officers:

John Harrington, President  
Pam Thomas, Vice President  
Bob Rice, Secretary  
Randy Smith, Treasurer  
Joe Boyd, Immediate Past President

#### Board of Directors

Mike Benson  
Tony Campbell  
JanaRuth Ford  
Bill Griswold  
Kris McCall  
Gary Wilkerson

BSAS website: [www.bsasnashville.com](http://www.bsasnashville.com)  
BSAS information line: 615 252-4091

BSAS Logo by Tony Campbell

## Happy Birthday Pierre Laplace

by Robin Byrne

This month we celebrate the life of a man whose contributions to mathematics, astronomy and physics are largely unequaled. Pierre-Simon Laplace was born March 23, 1749 in Beaumony-en-Auge in France to a farming family. From the age of 7 to 16, Laplace attended a Benedictine school, with the intent of pursuing a career in the Church. It was at Caen University that Laplace discovered his love of mathematics, which influenced the rest of his life. Laplace left the university without earning a degree, but had a letter of introduction to d'Alembert, who found Laplace a position as professor of mathematics at Ecole Militaire in Paris.

From 1771-1787, Laplace performed most of his work concerning astronomy. In his first paper, Laplace proved that the orbits of planets are stable. He also studied the tilt of the orbits of planets, and the effects of moons on the motions of planets. He also published several works on mathematics, including developments in probability, calculus and differential equations. Many of the equations he developed proved to be invaluable in mechanical physics and astronomy. Due to his prolific work, Laplace was elected as a member of the Academy of Sciences in 1773.

From 1782 to 1784, Laplace worked with Lavoisier determining the specific heats of a variety of materials, which is a measure of how easily a material heats up. To do this, Laplace developed his own design for a calorimeter.

In 1784, Laplace began working for the Royal Artillery Corps as an examiner. One of the young cadets he examined was a 16 year old Napoleon Bonapart. In 1788, Laplace married Marie-Charlotte de Courty de Romanges, with whom he had two children.

In 1790, Laplace was made a member of the committee to standardize weights and measures. It was from this committee that the metric system was developed to have measurements based upon a decimal system. During the French Revolution, the Academy of Sciences was disbanded, but the weights and measures committee was briefly allowed to continue. Laplace had left Paris before the revolution began, and managed to avoid the fate of some of his colleagues, such as Lavoisier, who was guillotined. Laplace had a history of appeasing whomever was in power. So when he and Lagrange and Leland were asked to work on a "new" calendar proposed by the revolutionaries, he agreed, despite realizing that their calendar did not agree with astronomical data.

In 1796 Laplace published his "Exposition de systeme du monde", in which he proposed an idea that still has merit today: that the solar system formed out of a large cloud of gas. Although Laplace's ideas differ in the details (he thought that concentric rings of material broke off to form each planet), the general idea is consistent with the modern version of the solar nebula hypothesis. The five book volume also contained treaties on the motions of celestial objects, the motion of the sea, force and momentum, the universal law of gravity, and the shape of the Earth. He also speculated on the idea that over the years Earth has experienced several collisions with comets, which could have had an affect on Earth's rotation and on life on the planet. In many of Laplace's publications, he omitted proofs with the statement, "it is easy to see." The fourth volume, published in 1805, included work on pressure and density based upon Laplace's idea that all physics could be broken down to interactions between molecules.

Laplace died March 5, 1827 in Paris. Out of respect, the Academy of Sciences made the rare move of canceling a meeting, and it was over a year before they appointed a replacement for Laplace. For anyone who has studied mathematics or physics in any depth, the name of Laplace is a familiar one. However, he is probably not nearly as well known outside of those fields, which is a shame. Pierre Laplace deserves wide recognition for all that he has contributed to our understanding of the universe around us.

### References:

Laplace, Pierre (1749-1827) — from Eric Weisstein's World of Scientific Biography Web Page <http://scienceworld.wolfram.com/biography/Laplace.html>

Laplace Web Page Article by: J J O'Connor and E F Robertson January 1999 <http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Laplace.html>

Pierre Simon Laplace (1749-1827) Web Page taken from A Short Account of the History of Mathematics by W. W. Rouse Ball (4th Edition, 1908) [http://www.maths.tcd.ie/pub/HistMath/People/Laplace/RouseBall/RB\\_Laplace.html](http://www.maths.tcd.ie/pub/HistMath/People/Laplace/RouseBall/RB_Laplace.html)

**Barnard-Seyfert Astronomical Society**  
**Minutes of a Regular Meeting of the of Directors**  
**Held On Thursday, February 3, 2005**

The Board of Directors of the Barnard-Seyfert Astronomical Society met in regular session at the Jefferson Square Club House in Nashville, Tennessee on February 3, 2005. A sign-in sheet was circulated in lieu of a roll call. President John Harrington declared a quorum to be present and called the meeting to order at 7:50 P.M. Board members Mike Benson, Joe Boyd, Tony Campbell, JanaRuth Ford, Bill Griswold, John Harrington, Bob Rice, and Randy Smith were present. Board members Kris McCall, Pam Thomas, and Gary Wilkerson were absent. In addition to members of the board, BSAS member Keith Burneson was also present. The minutes of the previous regular board meeting held on January 6, 2005 were approved as published in the February 2005 issue of the *Eclipse* newsletter.

John Harrington expressed his appreciation for Sky Publishing Corporation's allowing the Society to reprint their recent website article on laser pointers in the January 2005 edition of the *Eclipse* newsletter. Mr. Harrington announced that Dark Sky Committee Chair Powell Hall planned for that committee to meet on March 1. Equipment Committee member Keith Burneson reported that this committee had acquired all recently ordered equipment. Mr. Burneson also suggested that developing guidelines on "what not to do around telescopes" would be worthwhile.

Treasurer Randy Smith reported collecting \$185.00 in receipts from the silent auction held during the December Holiday Supper. Mr. Smith also reported that the BSAS' checking account balance was \$6,130.17. Joe Boyd announced that the Long Range Planning Committee would meet on Tuesday, February 8.

Programs Committee Chair JanaRuth Ford announced these upcoming membership meeting programs:

- February – Adventure Science Center Focus Group presentation
- March – Mike Benson on features of the Astronomical League & his trip to the Rose Planetarium
- April or May – Tony Campbell & Lonnie Puterbaugh on useful astronomy related websites

John Harrington announced that the Messier Marathon practice session scheduled for February 5 at Warner Park would start at 6:00 to 6:30 PM. Mr. Harrington said that he would try to arrange a field trip to Tamke-Allan Observatory during March or April. Mr. Harrington also announced that the Society might have a dozen or more members interested in attending the Mid-South Star Gaze on April 6-10, 2005.

JanaRuth Ford suggested that we consider meeting with the Bays Mountain Astronomy Club in Kingsport during their StarFest 2005 star party scheduled for October 22 & 23. John Harrington said that he would write a letter of appreciation for their inviting the BSAS and especially for their rescheduling the original date for that event to avoid conflicting with the TNSP on October 7-9. Mike Benson suggested that StarFest attendance might be limited to 100 people due to meeting room restrictions. John Harrington asked if TNSP 2005 notices had been sent to the major astronomy publications and Tony Campbell replied that this was in progress. Mr. Harrington commented that five of the six speakers had already been lined up for TNSP 2005.

Mike Benson announced that judging for the upcoming Middle Tennessee Science & Engineering Fair was scheduled for Thursday, March 17. BSAS members Bill Griswold and Chuck Schlemm had volunteered to judge the astronomy related entries. Mr. Benson noted that 17 young entrants would talk about their projects.

John Harrington announced that Tuesday, February 15 was tentatively set for the TNSP Planning Committee to meet with the time and place to be determined later. Joe Boyd announced that he had contacted Burgess Optical to be a vendor at TNSP 2005 and that Lonnie Puterbaugh would contact REI. Mr. Harrington said that he would ask for volunteers to help with TNSP 2005 at the next membership meeting. JanaRuth Ford suggested having a silent auction at TNSP 2005 in addition to inviting space artist Mike Chessman to be a vendor.

John Harrington asked for suggested BSAS activities on Astronomy Day to be held at the Adventure Science Center on April 16. Keith Burneson suggested having a star party that evening. Tony Campbell suggested erecting a model solar system layout. Mr. Campbell also suggested topics on "Guerrilla Astronomy." Joe Boyd suggested obtaining display materials from National Geographic. John Harrington suggested displaying BSAS members' photographs. Joe Boyd, Keith Burneson, and John Harrington volunteered to refurbish the old BSAS display.

Astronomical League (AL) Correspondent Mike Benson asked the board for instructions on how to vote regarding the AL Executive Council's recently proposed bylaws change to establish a multiple tier system for constituent clubs to enroll their members in the League. Mr. Benson explained that this proposed change provided the option of having different fees for each tier. Joe Boyd moved that the board instruct Mr. Benson to vote against this proposed change and Randy Smith seconded the motion. During the following discussion Tony Campbell pointed out that supporting the change might ultimately attract more new clubs into the League. Randy Smith called for the question and the motion passed by a majority voice vote with seven board members in favor and one opposed.

Bill Griswold announced that BSAS member Doug Dickerson had posted a link to the "Ultimate Messier Marathon Log" on the TN Astronomy Group's website. There being no further business, President Harrington declared the meeting adjourned at 9:25P.M.

Respectfully submitted,  
Bob Rice  
Secretary

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### BARNARD-SEYFERT ASTRONOMICAL SOCIETY 2005 OPERATING BUDGET

#### INCOME

Membership Dues	\$1,875
TNSP (net)	1,500
Book & Calendar Sales (net)	180
Silent Auction	150
Cash Donations	<u>100</u>
	<b><u>\$3,805</u></b>

#### EXPENSES

Equipment & Facilities	\$2,500
AL & IDA Memberships	800
Newsletter	600
Hospitality	400
Outreach & Mentoring	400
Insurance	350
Website	300
Speakers	200
Office Supplies	150
Awards & Recognition	100
Public Relations	100
Legal Fees	<u>20</u>
	\$5,920
<i>Operating Deficit</i>	<b><u>(2,115)</u></b>
	<b><u>\$3,805</u></b>

This 2005 budget provides significantly increased expenditures for loaner equipment and outreach and mentoring activities. However, in so doing we will again be spending more than we expect to take in which will result in a projected deficit of \$2,115. Drawing down our \$5,537 cash balance by that amount (an approximate 38% reduction) will finance the deficit. This will still leave the Society with over \$3,400 (or about 62%) as a cash reserve. We believe this combination provides a reasonable balance between asset preservation and spending to directly benefit all BSAS members.

Bob Rice, Chairman  
Finance and Budget Committee  
January 8, 2005



**Barnard-Seyfert Astronomical Society  
Minutes of the Monthly Membership Meeting  
Held on Thursday, February 17, 2005**

Vice-President Pam Thomas called the meeting to order at 7:38 P.M. at the Adventure Science Center and welcomed new members and visitors. The minutes of the previous membership meeting held on January 20, 2004 were approved as published in the February 2005 issue of the *Eclipse* newsletter.

Sudekum Planetarium Director Kris McCall presented this evening's program on new developments under consideration for the planetarium. Specifying that details of her presentation were not for public disclosure, Ms McCall outlined a number of exciting potential changes that elicited many "oohs" and "ahs" from the audience.

Pam Thomas recalled the meeting to order at 9:23 P.M. noting that the Messier Marathon was scheduled for March 5 with March 12 set as an alternate date. Kris McCall reminded the audience about the Astronomy Day program at the Adventure Science Center (ASC) on April 16 and announced these activities to take place during that event:

- BSAS - solar astronomy demonstration
- Chuck Schlemm - solar system display
- Spencer Buckner & Clarksville astronomers - Telescope display
- Presentation by Paul Johnson from NASA
- Drawing for a Meade telescope
- Educational materials donated by Astronomy Magazine
- BSAS - Evening star party

Pam Thomas commented that the Society would begin asking for volunteers at the upcoming Tennessee Star Party (TNSP) during the next membership meeting. Keith Burneson reminded the audience that TNSP was a major BSAS fundraiser being second only to membership dues as a source of revenue. Treasurer Randy Smith reported that the BSAS' checking account balance was \$6,196.70.

Dark Sky Committee Chair Powell Hall made three announcements:

1. Tomorrow (February 18) was the 75<sup>th</sup> anniversary of Clyde Tombaugh's discovery of Pluto;
2. Anyone wishing to attend the International Dark-Sky Association's (IDA) annual meeting in Tucson, Arizona in April should contact him;
3. The Dark Sky Committee would next meet on March 1.

Kris McCall asked Mr. Hall if the IDA could make a presentation for Astronomy Day at the ASC; Mr. Hall said that he would investigate that possibility with the national office.

Long Range Planning Committee Chair Joe Boyd announced that this committee met on February 8 and would meet every other month thereafter. Mr. Boyd stated that the group had divided into sub-committees and hoped issue a long range planning report to the membership in the fall. Webmaster Tony Campbell invited the audience to visit the BSAS' website at [bsasnashville.com](http://bsasnashville.com) for the latest club information and astronomy related headlines. Mr. Campbell asked everyone to notify him of any errors or problems they found on the website.

Pam Thomas commented that the BSAS' loaner program was going very well with most equipment presently being out on loan. Equipment Committee member Keith Burneson commented that the newly-acquired 6 inch Hardin Dobsonian was still available. Ms Thomas noted that the Equipment Committee was also looking for a donated EQ2 mount or equivalent for the new Coronado Personal Solar Telescope (PST).

Joe Boyd commented that during the last star party at the Natchez Trace Water Valley Overlook site a National Park Service Ranger had informed BSAS members that the Society would have to acquire a \$50.00 permit to use that location at night. Mr. Boyd said that the National Park Service had kindly waived the fee for the upcoming March 5 Messier Marathon and that the Society was looking into this matter for future events.

Chuck Schlemm announced that the Middle Tennessee Science & Engineering Fair would be held soon at Austin Peay State University. BSAS member Spencer Buckner announced that he would be a judge for that event. Since there was no further business to consider, Vice-President Thomas declared the meeting adjourned at 9:45 P.M.

Respectfully submitted,  
Bob Rice, Secretary

## Astrophotography



### Moon

Handheld picture of the moon, taken by Mr. Joe Boyd. Date of picture was approx. Nov 2, 2003. Joe used a Mamiya Sekor, 35 mm camera with ASA 200 film with a 55 mm camera lens. The telescope used was a Skywatcher Dobsonian with 1200 mm focal length and a 25 mm eyepiece lens. Mr. Boyd held the camera approx 2 mm from the eyepiece lens.

## Activities and Events

March 1 – 31, 2005

- 3/1 Dark-sky committee, 7:30 p. m., 201 McKendree Towers, 4343 Lebanon Pike, Hermitage, Tenn.
- 3/3 LAST QUARTER; BSAS Board of Directors Meeting, 7:30 p. m.
- 3/5 Messier Marathon Practice, Natchez Trace, Water Valley Overlook, 6:30 – Sun up
- 3/6 Conj., Mars & Moon
- 3/7 Conj., Neptune & Moon
- 3/10 NEW MOON
- 3/11 Conj., Mercury & Moon
- 3/11-13 Fall Creek Falls State Park, first annual spring star party: call Lloyd Watkins, 615 824-3005
- 3/12 Greatest eastern elongation of Mercury
- 3/12 Messier Marathon Practice (rain), Water Valley Overlook, 6:30 – Sun up
- 3/17 FIRST QUARTER; BSAS membership mtg., 7:30 p.m. Action Science Center
- 3/19 Conj., Moon & Saturn
- 3/20 Vernal Equinox, 6:33 a. m.
- 3/25 FULL MOON
- 3/26 Conj., Jupiter & Moon
- 3/27 EASTER DAY (first Sunday after first full moon after Vernal Equinox)
- 3/29 Inferior conj., Mercury & Sun
- 3/30 Conj., Moon & Saturn

April 1 — 30, 2005

- 4/1 LAST QUARTER
- 4/2 Star Party, Model Airplane Field, Edwin Warner Park, 8:00 – 10:00
- 4/3 Conj., Mars & Moon; Jupiter at opp.
- 4/3 Daylight Saving Time begins.
- 4/4 Conj., Moon & Saturn
- 4/5 Conj., Moon & Uranus; THE DARK-SKY COMMITTEE WILL NOT MEET!
- 4/7 BSAS Board of Directors mtg., 7:30 p. m
- 4/8 NEW MOON
- 4/12 Conj., Mars & Neptune
- 4/15 Conj., Moon & Saturn
- 4/16 FIRST QUARTER
- 4/16 Star Party, Adventure Science Center, 8:00 – 10:00
- 4/21 BSAS monthly mtg., 7:30 p. m., At Adventure Science Center
- 4/22 Conj., Jupiter & Moon
- 4/24 FULL MOON; Passover
- 4/26 Greatest elongation of Mercury W; Mercury is a Morning Star.

Note: all dates &amp; hours according to Central Time

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**Nashville, TN 37215-0713**

