



ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

Organized in 1928

February 2006

The Membership meeting will be held on February 16, 2006 at the Adventure Science Center at 7:30 pm.

Barbara Wilson's talk will be primarily about Visual Astronomy. Some of her background is as follows:

Barbara Wilson is the staff (amateur) astronomer at the George Observatory in Houston, Texas, employed there since 1993. The George Observatory is owned and operated by the Houston Museum of Natural Science. The observatory has 2 full-time staff members. The observatory depends on its large volunteer organization from the Houston/Ft Bend/Beaumont Area Astronomy Organizations. and is located an hour's drive south of Houston in Brazos Bend State Park.

Her duties at the observatory include coordinating all maintenance of the 36", conducting public Saturday night programs, teaching astronomy to school groups of all ages, teacher workshops, planning,

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President's Message

In January at the BSAS Board Meeting and Strategic Planning Committee meeting we had the opportunity to discuss and begin implementation of several ideas suggested to us by BSAS members. I'd like to mention a few of these in this column, along with some special upcoming events.

1. Messier Marathon and Dyer Observatory dinner. I would like to highlight two upcoming events that I am excited about, the Messier Marathon at my observatory and a pot-luck dinner for BSAS members at Dyer Observatory. This year's BSAS Messier Marathon will be on Saturday, March 25, 2006 at Spot Observatory near Nunnally, TN. Directions will be provided later, but in the meantime you may access them by going to the Spot Observatory website (<http://www.spotastro.com>) and clicking on the Clear Sky Clock at the bottom of the home page. Although I don't have quite as low a horizon as the Natchez Trace site we have used before, the skies are relatively dark, and we have electricity and a bathroom! After the regular business session of the BSAS membership meeting on February 16, Lonnie Puterbaugh will present a brief workshop on preparing for the Marathon. In the event that the weather looks bad for that Saturday night, we will have Friday, March 24, 2006 as an alternate date. I am looking forward to having everyone out to my observatory for this event. On Friday, March 17, 2006, The Vanderbilt University Dyer Observatory will host a pot-luck dinner for the BSAS at the observatory. I have had the opportunity to join the Board of Directors of Dyer recently, and look forward to continuing the long relationship that the BSAS and Dyer have enjoyed. Please mark your calendars for both these events.

2. Star Party Coordination. Board member Gary Wilkerson (garyww@comcast.net) has agreed to be the BSAS Star Party Coordinator for 2006. Gary will be responsible for making sure that we get the word out as necessary when weather forces a change in the scheduled star parties. This will be done via email, postings on the Yahoo TN Astronomy group, and the BSAS website. Also, we are soliciting interest in setting up an impromptu observers group. Weather and schedules being what they are, some members would like to be able to do some observing on short notice. If you are interested, please contact Gary at his email address above. Please also note the various star parties currently scheduled at the end of this Eclipse.

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coordinating programs and scheduling with the director. She writes articles on astronomy for museum publications.

An enthusiastic amateur astronomer she observes with a 20-inch personal telescope that has been highly modified by her husband, Buster. Her primary interests are in deep sky observing, receiving the Herschel 400 Astronomical League award in 1990 and the Messier Award in 1987. The last project she completed was observing all known globular clusters of the Milky Way visible from latitude 29 degrees north. Barbara is a member of the Fort Bend Astronomy Club serving as Vice President in 1989, the Houston Astronomical Society serving as both Novice Chairman and Vice President, and the Webb Society of England. She also serves on the Board of Directors of Texas Star Party, Inc.

Barbara was awarded the Texas Star Party's Lone StarGazer Award "For Outstanding Achievement in Visual Astronomy" in 1994, The Texas Star Party's Best Solar System Photograph Award in 1997 and the Webb Society's "Annual Award for Contributions to the Society's Publications" for 1998.

A number of her articles on Deep Sky Observing have been published in amateur publications. Also, Barbara has been featured in articles in The New Yorker, Scientific American, Sky and Telescope, and Astronomy Magazines. She has written articles for Deep Sky Observer, Amateur Astronomy and The Reflector and The Guide Star and HMNS's Museum News. One of her astronomical drawings is published in Impact Jupiter, by David H. Levy (1995 pg.214). Published photographs: Cosmic Pinball, by Sumners and Allen, (2000, plate #2). She is a contributor to numerous books on observing: Deep Sky Field Guide, Deep Sky Companions: The Messier Objects, Observer's Guide by Kepple and Sanner, The Caldwell Objects, and scientific research studies. Her most recent article for HMNS News is attached to this email.

Barbara is a co-discoverer of a new globular star cluster in the Milky Way Galaxy. IC 1257 was classified until 1997 as an open cluster. She was proud to have taken part in its discovery as a globular cluster. Harris, WE., Phelps R.L., Madore, B.F., Pevenova O., Skiff, B.A., Crute, C., Wilson, B., and Archinal, B.. IC 1257: A New Globular Cluster in the Galactic Halo 1997, AJ, 113, 688.

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: \$37.00

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:

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THE ECLIPSE NEWSLETTER

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BSAS Logo by Tony Campbell

Happy Birthday Mir

by Robin Byrne

This month we celebrate the beginning of the most successful space station yet built. On February 20, 1986, the first component of the Mir Space Station was launched. Meaning “peace” or “community”, Mir remained in orbit for the next 15 years, despite being built to only last for 5 years.

One month after the Base Block module was launched, the first crew arrived, and remained on board for a mere 2 months. Over the years, others would far surpass this time spent in orbit. Valeri Polyakov set the record with his stay of 437 continuous days in orbit. US astronaut Shannon Lucid set the women’s record with a continuous stay of 188 days. During its lifetime, 125 people from 12 different countries occupied Mir. During their stays, over 23,000 scientific and medical experiments were conducted.

Designed to be built and expanded in orbit, Mir grew from 1986 to 1996. In 1987, the second module, Kvant-1, was launched, making Mir the first modular space station. Two years later, the Kvant-2 module was added. This component provided an airlock, which allowed for extravehicular activities (EVA’s), also known as spacewalks. In 1990, the Kristall module added the ability to monitor the Earth, as well as, housing equipment for semiconductor and biological experiments. The module Spektr arrived in 1995, with the capability to observe and measure geophysical activity on Earth. The following year, the last addition to Mir, the Priroda module, arrived.

A reliable means of transporting crew members and supplies was needed. After attempting to develop a reusable space ship, similar to the shuttle, it was decided to keep with the tried and true methods already established. For transporting people to and from Mir, the Soyuz-TM vehicles were used. These are the same vehicles currently being used to ferry people to the International Space Station and back. One Soyuz module always remained docked with Mir as a potential “lifeboat” in case of an emergency. For supplies, the Progress-M resupply ship became invaluable. This, too, is currently used for all supply runs to the Space Station.

Like all things, as Mir aged, its physical problems increased. In February of 1997, a near-fatal fire threatened the crew for 15 minutes before it was successfully extinguished. Computer and oxygen generating malfunctions became a regular occurrence. Later in 1997, a Progress supply ship collided with Mir, creating a breach in the hull, and, once again, placing the crew in extreme danger.

By the end of 2000, it became clear that Mir was dying, and Russia could no longer afford to support both Mir and its commitment to the International Space Station. For the safety of the people on Earth, it was decided to de-orbit Mir in a controlled manner so that it would land in an ocean. On March 23, 2001, Mir reentered Earth’s atmosphere and followed a fiery trajectory visible to many spectators on the ground. Observers in New Zealand and Fiji had the best view, reporting streaks of gold and white across the sky. Finally splashing into the South Pacific, after more than 86,000 orbits, Mir had come home.

Just one day prior to Mir’s de-orbit, the first ISS crew returned to Earth, and the second crew had settled in for their stay. The lessons of Mir, both the successes and failures, have helped to make ISS a safer, more reliable space station. In the aftermath of the Shuttle Columbia disaster, the reliable Soyuz and Progress ships have become essential for ISS to continue to function. Even with a crew reduced from 3 to 2 people, ISS has performed beautifully. And, because of Mir, we know what to do if something does go wrong. Although no longer physically in space, because of its legacy in the form of ISS, Mir lives on.

References:

Shuttle-Mir History/Spacecraft/Mir Space Station <http://spaceflight.nasa.gov/history/shuttle-mir/spacecraft/s-mir.htm>

**Barnard-Seyfert Astronomical Society
Minutes of a Regular Meeting of the Board of Directors
Held On Thursday, January 5, 2006**

The board of directors of the Barnard-Seyfert Astronomical Society met in regular session at the Jefferson Square Club House in Nashville, Tennessee on January 5, 2006. A sign-in sheet was circulated in lieu of a roll call. Having determined that a quorum was present, President Mark Manner called the meeting to order at 7:43 P.M. Board members Mike Benson, Joe Boyd, Keith Burneson, Tony Campbell, JanaRuth Ford, Bill Griswold, Kris McCall, Mark Manner, Bob Rice, Randy Smith, Pam Thomas, and Gary Wilkerson were present. In addition to members of the board, Equipment Committee Chair Lonnie Puterbaugh and BSAS member Heinrich Tischler were also present.

Mark Manner reported that the BSAS needed to find a new location for board meetings and noted that, as researched by Bill Griswold, the Green Hills Library was not a viable possibility because it closed at 8:00 P.M. JanaRuth Ford suggested one of the Shoney's Restaurants, but after some discussion, the board decided against meeting at an eating place. Mr. Manner said that he would investigate other possibilities and report the results to the board.

Treasurer Randy Smith reported that he had received the Society's liability insurance declarations page and provided this document to Secretary Bob Rice. Joe Boyd agreed to contact former BSAS Historian Dudley Pitts about the Society's historical documents. The minutes of the previous board meeting held on December 1, 2005 were approved without objection as published in the January 2006 edition of the *Eclipse* newsletter.

Kris McCall asked if anyone wanted six boxes of the *Astrophysical Journal* stored at the Adventure Science Center (ASC). JanaRuth Ford said that she would inquire at Middle Tennessee State University. Mark Manner offered to store them temporarily.

Mike Benson requested that Barbara Wilson, our February speaker, be reimbursed in part for her travel and lodging. JanaRuth Ford reminded the board that funds for speaker expenses were already budgeted. Treasurer Randy Smith reported that the BSAS' cash balance was \$3,275.29.

Finance & Budget Committee Chair Bob Rice presented budget recommendations for 2006. Following some discussion Tony Campbell moved that the budget be adopted as presented, Keith Burneson seconded this motion, and the budget passed by a unanimous voice vote. A copy of the adopted budget will be published in the February 2006 edition of the *Eclipse* newsletter.

Mark Manner announced that he would meet soon with Dyer Observatory Director Rick Chappell and Vanderbilt board member Irby Simpkins and planned to discuss the relationship between Dyer and the BSAS at the conclusion of scheduled business. Along with his own suggestions, Mr. Manner solicited the board for proposed club objectives. Among others, these included:

- Increase membership
- Have more social interaction
- Establish a star party coordinator
- Establish a centralized email
- Make membership list assessable (but not for solicitation)
- Restrict above access to members only
- Update the BSAS website
- Allow board members to enter content on website

The board discussed establishing a permanent observatory for BSAS members noting that the cost would likely be prohibitive without outside financing sources. Lonnie Puterbaugh suggested that the Society might be able to

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undertake this project as a joint effort with the Von Braun Astronomical Society in Huntsville that already had access to land in Tennessee. Mark Manner said that he would bring this topic up for discussion at the next membership meeting.

Following a brief discussion, Gary Wilkerson volunteered to serve as the BSAS Star Party Coordinator. The board noted that he might share these duties with Terry Reeves who had previously expressed some interest in this task. Webmaster Tony Campbell said that he would try to have some of the suggested web page modifications and updates in place by the next membership meeting.

Mark Manner pointed out the need for a publicity effort to attract new members. JanaRuth Ford commented that local National Public Radio had consistently announced BSAS events on its "Happenings" broadcast. Kris McCall stated that the ASC routinely issues press releases, but that some venues would require much advance notice to include BSAS events. Mr. Manner suggested that there might be a BSAS member who had public relations experience who could help.

The board briefly discussed the upcoming Tennessee Star Party (TNSP) 2006 noting that a location and dates had not been established. Mark Manner said that he would contact TNSP Coordinator Glen Whelan regarding these details.

During a discussion of the BSAS' relationship with other institutions and clubs the board agreed that we should share star parties and publish other clubs' star parties on our website. Mark Manner suggested that the BSAS might seek joint grants with Dyer Observatory. Lonnie Puterbaugh noted that the BSAS had received favorable references from Dyer Observatory. Mark Manner said that he would contact the headmaster of Montgomery Bell Academy about our assisting the school with its astronomy related activities. He also announced that Heather Gallagher had contacted him about activities with Warner Park. Mr. Manner asked Kris McCall about using the cutting edge work being done by local amateurs as a focus for the upcoming Astronomy Day activities at the ASC. Ms McCall indicated that this would be possible.

Joe Boyd announced that the Strategic Planning Committee would meet at his home on Tuesday, January 10 at 7:30 P.M. Lonnie Puterbaugh announced that the Equipment would next meet at his home on February 1st. Tony Campbell invited board members to send him pictures of BSAS activities for the website. Heinrich Tischler commented that there was a vast amount of talent within the Society that could be drawn upon to increase membership.

There being no further business to discuss, President Manner declared the meeting adjourned at 9:04 P.M.

Respectfully submitted,
Bob Rice
Secretary

**Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held on Thursday, January 19, 2006**

President Mark Manner called the meeting to order at 7:36 P.M. in the Adventure Science Center (ASC) and welcomed new members and visitors. The minutes of the previous membership meeting held on December 15, 2005 were approved without exception as published in the January 2006 issue of the *Eclipse* newsletter.

Program Committee Chair JanaRuth Ford introduced Dr. Todd Gary, Associate Professor of Biology and the Director of the Institute for Understanding Biological Systems at Tennessee State University (TSU), who presented the evening's program on astrobiology. Dr. Gary pointed out that astrobiology was a blended discipline that drew upon both the physical and biological sciences to explore the origin, evolution, distribution, and future of life in the universe. He described current research at TSU devoted to breeding plants that can grow under very low atmospheric pressure. Dr. Gary noted that such plants would probably be the first living travelers sent to Mars which has an atmospheric pressure less than 1/80th that of the earth. He also speculated that future probes for extraterrestrial life would likely be sent to Titan, Europa, and Pluto. Commenting on this week's successful return of the NASA Stardust mission to collect dust from Comet Wild 2, Dr. Gary announced that one experiment would involve examining the collected particles for "freeze-dried" bacteria and that interested amateur astronomers could join the Stardust At Home project to use their personal computers as part of this process. Dr. Gary then graciously answered questions from the audience following his presentation.

Mark Manner recalled the meeting to order at 8:43 P.M. Treasurer Randy Smith reported that the BSAS' checking account balance was \$4,581.91. Mr. Smith also informed the membership that Astronomy Magazine's subscription rates through the Society had increased from \$29.00 to \$34.00. Long Range Planning Committee Chair Joe Boyd reported that this committee met last week and would next meet in February with additional meetings scheduled for every other month thereafter. He stated that the committee was reviewing returned questionnaires and would present a formal report to the membership later this year.

Tennessee Star Party (TNSP) Coordinator Keith Burneson reported that this event would be held on either September 15-17 or 22-24. He also reported that the TAG (Tennessee-Alabama-Georgia) church camp near Lynchburg, that offers darker skies and better-equipped cabins than last year's Camp Nakanawa location, was being investigated as a potential site. Mr. Burneson asked the audience if they would be willing to arrive a day earlier on Thursday and attend a full day of workshops on Friday; most indicated that they would.

Mark Manner announced that Astronomy Day activities were scheduled for May 6 at the ASC. Webmaster Tony Campbell announced that he was revising the BSAS' website to offer more of a blog type interface that would allow board members to update critical lists. Mr. Campbell stated that he hoped to have this completed within the next few days; he also invited BSAS members to submit articles for the website.

Mark Manner announced these upcoming events of interest:

- Jan 28 - BSAS public star party at Warner Park
- Feb 03 - MTSU star party
- Feb 16 - BSAS membership meeting at the ASC
- Feb 25 - Private star party at the Natchez Trace Parkway site
- Mar 03 - MTSU star party
- Mar 16 - BSAS Membership meeting at the ASC
- Mar 17 - Potluck dinner at Vanderbilt's Dyer Observatory
- Mar 25 - Messier Marathon at Spot Observatory (a.k.a. Mark Manner's home)
(with March 24 as an alternate "rain" date)

Mark Manner announced that Gary Wilkerson would serve as the BSAS Star Party Coordinator for all such events other than the TNSP. He noted that Mr. Wilkerson would use the tnastronomy website to inform potential attendees about the status of scheduled star parties. Mr. Manner also announced that he wanted to establish a "Go-To Team" of members who were willing to bring telescopes and make presentations at schools and other venues upon short notice. He added that he would solicit participants via email.

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Mark Manner asked members who borrowed telescopes and other equipment under the Society's loaner program to return those items to Equipment Committee Chair Lonnie Puterbaugh's home. This information may also be put on the BSAS' website. Mr. Manner commented that it would not be feasible to hold workshops during membership meetings, but suggested that weekends – possibly in conjunction with public star parties – might be a better time. He also announced that the Society's membership list would be made more generally available, but that members could opt out if they did not wish to participate. In addition, he asked the membership to think about acquiring a permanent observing site, but reminded everyone that we must first decide what we wanted and consider a means of funding the effort. Mr. Manner commented that a certain member might undertake writing a history of the BSAS if he could be persuaded to retire. He also stated that the Society needed public relations guidance and that a new member who worked in that field might be able to help.

Lonnie Puterbaugh commented that recently released images from the Hubble Space Telescope were still on display in the ASC. Mr. Puterbaugh announced that he would demonstrate a new pair of electronic goggles that were equivalent to a 42-inch TV monitor after the meeting. He also informed the audience that a good pair of red tinted glasses could be purchased for \$10.00 from the www.toolbar.com website.

There being no further business to discuss, President Manner declared the meeting adjourned at 9:07 P.M.

Respectfully submitted,
Bob Rice, Secretary

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3. Website updating. Webmaster Tony Campbell is in the process of enabling the website to be updated on a more frequent basis by the Board and Officers. Once this is done, we will be able to use the website for time sensitive announcements. We will keep you advised.

4. Workshops. By popular demand, we would like to hold several hands-on workshops this year. Topics suggested have included: Equipment Selection, Basic Observing Skills, Video Astronomy Basics, CCD Imaging Basics, and Homemade Observing Equipment. These will be an hour or two in length, and will be scheduled on Saturday afternoons, in some cases prior to a public star party. If you have any ideas for other topics, please let us know.

5. Membership List Availability. We would like to make the BSAS membership list available to all members to encourage member social interaction. We will likely do this via the website. We will post instructions soon.

6. Loaner Equipment Policies. The BSAS is fortunate to have a wide selection of loaner equipment for member use. Lonnie Puterbaugh is the one to contact to take advantage of this member benefit. To make this workable, please arrange to both pick up and re-deliver any equipment to Lonnie's house. We hope to have at some point an on-line list of equipment and its availability.

7. 2006 TNSP. Plans are well underway for this year's Tennessee Star Party, scheduled for September 15, 16 & 17, 2006. BSAS Vice-President and TNSP Chair Keith Burneson will have more to say about this later.

I look forward to a great 2006 for the BSAS. Please don't hesitate to contact me if you have questions, concerns or suggestions.

Mark Manner, President
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Activities and Events

February 1 — 28, 2006

- 2/1 Saturn 0.9° S of Beehive (M44) (175° E)
- 2/2 BSAS Board of Directors mtg., 7:30 p.m. at Girl Scout Office
- 2/3 Star Party, MTSU, 6:00 – 9:00 (contact JanaRuth Ford (553-9438))
- 2/5 FIRST QUARTER; Mars 2° S of moon
- 2/6 Moon 0.1° N of Pleiades (M45)
- 2/12 FULL MOON
- 2/16 BSAS monthly meeting at ASC: 7:30 p. m.
- 2/16 Mars 2° S of Pleiades (M45) (91° E)
- 2/17 Venus greatest brilliancy
- 2/18 Spica 0.4° S of Moon
- 2/21 LAST QUARTER
- 2/21 Antares 0.2° N of Moon
- 2/23 Vesta stationary
- 2/24 Mercury greatest elongation E (18°)
- 2/25 Ceres 0.8° N of Moon
- 2/25 Private BSAS star party Natchez Trace, mile 433 (approx.)

March 1 — 31, 2006

- 3/2 BSAS Board of Directors mtg., 7:30 p.m. at Girl Scout Office
- 3/3 Star Party, MTSU, 6:00 – 9:00 (contact JanaRuth Ford (553-9438))
- 3/5 Moon 0.3° N of Pleiades (M45)
- 3/6 FIRST QUARTER
- 3/14 FULL MOON, penumbral eclipse
- 3/16 BSAS monthly meeting at ASC: 7:30 p. m.
- 3/17 Spica 0.3° S of Moon
- 3/20 Equinox; Antares 0.3° N of Moon
- 3/22 LAST QUARTER
- 3/24-25 Messier Marathon, Spot Observatory (2/24 is a rain date)
- 3/25 Venus greatest elongation W (47°); Ceres 0.8° S or Moon
- 3/26 Venus 1.9° N of Moon
- 3/27 Uranus 1.4° N of Moon; Mercury 2° N of Moon
- 3/28 Double shadow transit on Jupiter
- 3/29 NEW MOON

Note: all dates & hours according to Central Time

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