



# ECLIPSE



*The Newsletter of the Barnard-Seyfert Astronomical Society*

Celebrating our 76th Year in 2004

December 2004

## **BSAS MEETING, THURSDAY, DECEMBER 16, 2004, 6:00 pm.**

**THE BARNARD — SEYFERT ASTRONOMICAL SOCIETY will celebrate Christmas / Holidays party with our annual “potluck” dinner to be held at the Adventure Science Center.**

The BSAS will furnish the drinks, meat and paperware, cups, plates, napkins, etc. Each of you should bring a vegetable, salad or dessert plate to share.

After we clean up, a program will be held in the Sudekum Planetarium with Kris McCall and JanaRuth Ford to operate the projection equipment.

**We hope you all can come.**

**See page 5 for the announcement of the Silent Auction to be held at the party**

## **FROM THE PRESIDENT**

Hello, fellow star-gazers! I hope that all of you had a wonderful Thanksgiving and found at least a little time to get out and marvel at the stars.

I'd like to devote this message to several topics: our recent joint star party, the search for a new BSAS dark sky site, the amazing developments this year in astronomy and space exploration, and finally a forthcoming change to The Eclipse.

First off, my thanks to all of you who were able to attend the **joint star party with the Cumberland Astronomical Society (CAS)** at CAS' nice dark sky site near Gallatin. Approximately a dozen BSAS members attended, a reasonable turnout considering the distance involved and the threat of cloud cover. CAS President Scott Smith was an extremely gracious host, proffering hot chocolate and even hot pizza (yes, the CAS dark sky site is within delivery range). Around 30 CAS members attended the event, and they were equally gracious, showing off a number of star clusters and nebulae through their scopes (including a number of big dobsonians). The clouds did indeed put an end to the star party sometime after 9:30PM, but I believe everyone present had a very enjoyable evening. I hope we can return the favor soon. So, THANKS CAS!!!

Speaking of dark sky sites, I continue to hope we can find one closer to Nashville to call our own. **Our next private star party is scheduled for this coming Saturday night, December 4th at 7:00PM**, at a new candidate site. The site is a loop-shaped parking lot located at approximately **mile 435.5 of the Natchez Trace**. To reach this site, just drive west on Highway 96 from Franklin, turn south on the Natchez Trace, then drive 2 miles and start looking for the site to your left. This site may or may not work, due to some exposure to lights from Natchez Trace traffic, but it's much closer for most of us so let's give it a try! At a minimum, we should get to have a pleasant evening of good fellowship under the stars.

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**From the President**, continued from page 1

As the year draws to a close, I'd like to take stock of a number of incredible achievements in astronomy and space exploration this year:

- Both of NASA's Mars rovers continue to explore the red planet, months after their 90-day warranties expired. Both Spirit and Opportunity have now survived the worst of the Martian winter, and their lifespan may now be measured in **years**, not weeks or months! Opportunity, in particular, has provided data strongly suggesting that Mars once had substantial amounts of water on its surface. Meanwhile, the Mars Global Surveyor continues patiently mapping the topography, mineral content and weather of Mars.
- The joint NASA/ESA Cassini/Huygens mission has now reached Saturn and is providing the most detail views ever of not just Saturn, but also its moons, including cloud-shrouded Titan. The Huygens probe is scheduled to enter Titan's atmosphere and, hopefully, softly land or splash-down on Titan on December 24<sup>th</sup>, a great astro-Christmas present for us all.
- Meanwhile, the Scaled Composites corporation proved that space travel (at least suborbital flight) is within reach of the private sector. Burt Rutan's SpaceShipOne flew to the fringes of space, repeatedly reaching altitudes above 100 kilometers and thereby winning the \$10 million Ansari X-Prize.
- And earth-bound observatories continued to achieve, with new adaptive optics systems at the Keck, Subaru and Gemini telescopes all helping to produce incredibly crisp, clear images of both solar system and deep space objects. One of the European Southern Observatory's huge 8.2 meter telescopes even produced what could be the first images of a planet in orbit around another star. Researchers using the 1.2 meter survey telescope at Palomar Mountain discovered Sedna, a Kuiper-belt body orbiting the sun that may be half the size of our own moon.

Who knows what lies ahead in 2005?! What a great time to be alive and into astronomy.

Finally, Bill Griswold, who faithfully edits The Eclipse each month, has pointed out that we could kindle even greater interest in each issue of The Eclipse by including more astronomy content and even some astro-images. **I'm therefore happy to announce a new contest for the BSAS "astrophoto of the month,"** with the winning image to be published in The Eclipse. Entries should be submitted via e-mail to Bill or me and can focus on any astronomical object—the sun, moon, solar system objects, or deep sky objects. The only requirement is that images be shot by a BSAS member with amateur equipment. I know that a significant number of BSAS members have webcams and CCD cameras, so c'mon folks, let's see what you can do with them!

**Merry Christmas and clear skies to all!!!**

#### 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:

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#### THE ECLIPSE NEWSLETTER

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Pam Thomas, Vice President

Bob Rice, Secretary

Randy Smith, Treasurer

Joe Boyd, Immediate Past President

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Mike Benson

Tony Campbell

JanaRuth Ford

Bill Griswold

Kris McCall

Gary Wilkerson

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BSAS information line: 615 252-4091

BSAS Logo by Tony Campbell

## Happy Birthday Apollo 8

by Robin Byrne

This month we celebrate a milestone in the history of the manned exploration of space. The Apollo 8 mission would be the second manned Apollo mission. It was originally planned to test the lunar rover in Earth orbit. However, due to delays in redesigning the rover after the Apollo 1 tragedy, no rover was ready for testing. What was ready to test was the Saturn V rocket, designed to take men to the Moon. It was decided that Apollo 8 would be man's first trip out of Earth orbit and into lunar orbit.

The commander of the mission was Frank Borman; the command module pilot was James Lovell; and the lunar module pilot was William Anders. Borman and Lovell had flown together before on the Gemini 7 mission, spending 2 weeks in Earth orbit. This would be Anders first flight into space.

Launch took place at 7:50 am EST on December 21, 1968. They first went into Earth orbit before getting a "Go" for TLI (Trans-Lunar Injection) three hours later. Men had ventured out of Earth's gravity.

On December 24, the crew of Apollo 8 entered lunar orbit. During the trip to the Moon and while in lunar orbit, the crew and spacecraft achieved all of the mission objectives. One main objective was further testing of the Apollo command module systems, such as communications, tracking and life-support. It also provided an opportunity to evaluate how the crew performed during a lunar orbiting mission. While in orbit around the Moon, obtaining photographs of the Moon's surface were another major objective. This was especially true for evaluating potential landing sites for future missions. However, one of the most famous pictures taken during this mission had nothing to do with scientific or mission objectives. The picture was of the Earth rising above the Moon's horizon, and is now called "Earthrise." That image provided a stark contrast between the color and hospitality of Earth versus the barren landscape of the Moon.

The Apollo 8 crew had six live television broadcasts during the mission, but the most powerful was their transmission on Christmas Eve from orbit around the Moon. While showing pictures of the Earth and Moon, Lovell said, "The vast loneliness is awe-inspiring and it makes you realize just what you have back there on Earth." The broadcast ended with all three crew members taking turns reading from Genesis, and closed with Borman saying, "And from the crew of Apollo 8, we close with good night, good luck, a Merry Christmas, and God bless all of you - all of you on the good Earth." The crew of Apollo 8 returned to Earth December 27 at 10:51 am EST.

The year 1968 was a violent year of unrest. The images and message from Apollo 8, to some small degree, helped to put our place on this planet into better perspective. As I write this article, it is election day in a year that has seen its share of violence and divisive politics. May we close out the year in the spirit of Apollo 8 and come together in unity and peace on this good Earth.

### References:

Apollo 8 Mission Summary <http://www.nasm.si.edu/collections/imagery/apollo/AS08/a08sum.htm>

NSSDC Master Catalog: Spacecraft <http://nssdc.gsfc.nasa.gov/database/MasterCatalog?sc=1968-118A>

Apollo 8 Christmas Eve Broadcast [http://nssdc.gsfc.nasa.gov/planetary/lunar/apollo8\\_xmas.html](http://nssdc.gsfc.nasa.gov/planetary/lunar/apollo8_xmas.html)

**Barnard-Seyfert Astronomical Society**  
**Minutes of a Regular Meeting of the Board of Directors**  
**Held On Thursday, November 4, 2004**

The Board of Directors of the Barnard-Seyfert Astronomical Society met in regular session at the Jefferson Square Club House in Nashville, Tennessee on November 4, 2004. A sign-in sheet was passed around in lieu of a roll call. President John Harrington declared a quorum to be present and called the meeting to order at 7:35 P.M. Board members Mike Benson, Joe Boyd, Tony Campbell, JanaRuth Ford, Bill Griswold, John Harrington, Bob Rice, Randy Smith, and Pam Thomas were present. Board members Kris McCall and Gary Wilkerson were absent. In addition to members of the board, BSAS member Keith Burneson and Equipment Committee Chair Lonnie Puterbaugh were also present. The minutes of the previous regular board meeting held on October 7, 2004 were approved as published in the November 2004 issue of the *Eclipse* newsletter.

John Harrington reported on his inspection of a potential new dark sky site for the Society's private star parties located in a parking lot off the Natchez Trace Parkway some 11.5 miles closer to Nashville than the previously used site. Mr. Harrington noted that there was some exposure to headlights at the southern end of that location, but pointed out that a ranger station was nearby and that cell phones worked. He suggested that several members give it a try on December 4 starting at sunset.

Finance & Budget Committee Chair Bob Rice reported that Joe Boyd (immediate past president), John Harrington (current president), Bob Norling (BSAS member and CPA), and Randy Smith (Treasurer) had volunteered to serve on this committee. Mr. Rice said that he hoped the committee could meet before Thanksgiving to begin working on the 2005 budget.

Program Committee Chair JanaRuth Ford reported that she would email members to meet periodically to discuss potential contacts for upcoming programs. Ms Ford said that she had speaker commitments for early winter, but no specific dates yet. She said that Kris McCall would present a planetarium show at the December holiday party and that she hoped to have a "How to Use Your New Telescope" presentation for the January meeting.

Former Treasurer Lonnie Puterbaugh reported having paid expenses of \$327 for liability insurance, \$5 in bank fees, \$198 for *Sky & Telescope* subscriptions, and \$1,314.53 for TNSP t-shirts. Mr. Puterbaugh reported that the BSAS' checking account balance was \$2,549.23. Arrangements were made to transfer the BSAS check book and authority to transact business to the new Treasurer, Randy Smith. Mr. Puterbaugh, as the Equipment Committee Chair, reported that all ordered telescope accessories had been received and, except for attaching a new Telrad to the Society's eight inch dobsonian, were installed.

TNSP Treasurer Bob Rice reported that the 2004 star party had shown a net gain on operations (i.e., a profit) of \$1,075.07 as of November 4, 2004. Lonnie Puterbaugh reported that he had sold \$165 in TNSP t-shirts that was deposited to the BSAS checking account, but not included in this reported amount. This addition increased the net gain on operations to \$1,195.54. Mr. Puterbaugh noted that the BSAS had a remaining inventory of 47 t-shirts: 6 large, 29 X large and 12 XX large.

John Harrington handed out a calendar and procedures checklist for TNSP 2005. Pam Thomas offered to send thank-you notes to the TNSP 2004 speakers if she could obtain their email addresses. These members volunteered to serve on the TNSP 2005 Planning Committee: Joe Boyd (Speakers), Bill Griswold (Registration), Bob Rice (Treasurer), and Pam Thomas (Snack Bar). John Harrington suggested that a resolution authorizing the undertaking of TNSP 2005 be presented to the BSAS membership for their vote at the November meeting. Tony Campbell suggested developing a Power Point presentation with photos from TNSP 2004. Mr. Harrington moved that the above resolution be drafted and presented for discussion and consideration at the November 18 membership meeting; Pam Thomas seconded this motion which passed by a unanimous vote. Joe Boyd moved that a resolution for approving a contract with Camp Nakanawa for TNSP 2005 also be drafted and presented to the membership; Mike Benson seconded this motion which passed by a unanimous vote. In addition to presentation at the November 18 membership meeting, these resolutions will be attached to the permanent written meeting minutes and be available for inspection by any BSAS member.

John Harrington reported that he had not found a chairperson for the Public Relations, Outreach, and Monitoring Committee noting that it might be necessary to split this group into separate components. Mr. Harrington commented that BSAS member Dennis Williams might be willing to chair the Outreach portion under such a division.

**Board of Directors Meeting, Minutes**, continued from page 4

John Harrington announced these dates for upcoming star parties and outreach events:

- November 06 – Outreach star party at Long Hunter State Park;
- November 13 - Joint star party with the Cumberland Astronomical Society;
- December 09 - Student outreach at Grassland Elementary School;
- December 11 - Outreach star party at Percy Warner Park.

All events and dates were discussed and approved by the board.

John Harrington asked for a discussion of possible BSAS field trips during 2005. Lonnie Puterbaugh mentioned the annual five-day Summer Astronomy Camp at the University of Arizona in May. Those familiar with this event agreed that it was an excellent, but time consuming and costly outing. The group then considered less costly one-day regional possibilities. Joe Boyd suggested a trip to Tamke-Allen Observatory at Roane State Community College in Oak Ridge. JanaRuth Ford suggested a trip to Bays Mountain Planetarium and Observatory in Kingsport. Both suggestions met with general approval and John Harrington said that he would contact Dr. Fields at Tamke-Allen.

Secretary Bob Rice reported that he had submitted the required annual report to the Tennessee Secretary of State's Office thereby continuing the BSAS as a Title 48 non-profit corporation under the Tennessee Code, Annotated. Mr. Rice also related BSAS member Bob Norling's recommendation that the board make Sky Publishing's new *Night Sky* magazine available to members at a reduced rate in addition to *Sky & Telescope* and *Astronomy* magazines. The board expressed their unanimous opinion that this would be a good idea.

John Harrington reported that he and Equipment Committee Chair Lonnie Puterbaugh would send a letter requesting payment from a BSAS member responsible for damage to one of the Society's loaner telescopes. Webmaster Tony Campbell offered to put a copy of the Loaner Scope Agreement on the BSAS' website.

Webmaster Tony Campbell commented that he hoped to set up PDF files on the BSAS' website to provide self-guided tours of Tennessee impact crater sites. Mr. Campbell said that he would contact the appropriate faculty at the University of Tennessee, Knoxville to get additional information and materials.

There being no further business, President Harrington declared the meeting adjourned at 9:19 P.M.

Respectfully submitted,  
Bob Rice  
Secretary

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Continued from Page 1, **Program Announcement**

**Silent Auction (to be held at the Christmas Party)**

**WANTED - AUCTION ITEMS** Do you have surplus astronomy books or equipment you are no longer using but taking up valuable living space? Do you need to make room for "hoped for" holiday gifts and future acquisitions? Would you like to make a donation to BSAS and receive a tax deduction for it?

If you answered YES to any of the questions above, then you need to donate those used books, equipment, or other astronomy related items to the 2004 silent auction. They will be auctioned off at the December meeting with the proceeds going to the BSAS treasury.

If you have items for the auction, please inform Kris at [kris mccall@adventuresci.com](mailto:kris mccall@adventuresci.com) by Tuesday, December 14. We will need to know the value of the item and what you think the minimum bid should be. It would be even more helpful if you could deliver items by Wednesday, December 15 so we can have the auction completely set up before people arrive.

**WANTED - BIDDERS** At the December meeting/party, a variety of astronomy books, equipment, and other related merchandise will be offered in a silent auction. Bidders write their name and bid on a sheet posted at each item. Then, someone else might come along and outbid you. Then, you have to decide if you want to outbid them. At the end of the evening, winning bidders are expected to pay for their items and take them home. Sound like fun? And since families are invited to the party in December, you can always point out something you might like to receive as a gift in the future. Bring your cash or checkbook. Bid high and bid often!



**Barnard-Seyfert Astronomical Society  
Minutes of the Monthly Membership Meeting  
Held on Thursday, November 18, 2004**

President John Harrington called the meeting to order at 7:44 P.M. at the Adventure Science Center and welcomed new members and visitors. The minutes of the previous membership meeting held on October 21, 2004 were approved as published in the November 2004 issue of the *Eclipse* newsletter.

John Harrington introduced David Van Hoven, recently retired Planetarium Director and astronomy teacher at McGavok High School, who gave an introductory appraisal of the education system followed by a presentation on "Science Instruction and Education." Drawing upon his 35 year teaching experience, Mr. Van Hoven then offered several suggestions for improving the BSAS' efforts for attracting teen-agers. These included:

- Recognize that general interest in astronomy is limited,
- Assess how widely known the BSAS is in the community,
- Draw upon the Society's talent,
- Appeal to adults first,
- Establish media contacts,
- Connect astronomical presentations to the recipients' personal lives,
- Expect only modest growth (at least at first), and
- Inject humor.

Mr. Van Hoven enthusiastically received and answered the audience's questions following his presentation. John Harrington then thanked Mr. Van Hoven for a very timely and interesting program.

John Harrington recalled the meeting to order at 8:53 P.M. Mr. Harrington announced that the Public Relations, Outreach, and Mentoring Committee still needed a chair and asked for volunteers to serve in that capacity. Kris McCall suggested that a presentation on "How to Use Your New Christmas Telescope" would be a good program for the January meeting. Webmaster Tony Campbell offered to put instructional resources and members' comments on the BSAS website.

John Harrington reported that the joint star party with the Cumberland Astronomical Society on November 13 was a great success despite somewhat mediocre skies. Mr. Harrington announced these upcoming events:

- December 4 Private star party at the new experimental dark sky site located off the Natchez Trace Parkway. Webmaster Tony Campbell will post directions on the BSAS' website.
- December 9 Outreach star party at Grassland Elementary School. Gary Wilkerson will post an announcement on the Yahoo Tennessee Astronomy user group site.
- December 11 7:30 PM public star party at Warner Park, and
- December 16 BSAS' annual holiday supper.

Regarding the December 16 holiday supper, Vice-President Pam Thomas stated that the Society would provide the main entrees and silverware while the members would bring side dishes.

John Harrington announced that details for a field trip to the Tamke-Allan Observatory at Roane State Community College sometime in 2005 were being worked out with the Director, Dr. David Fields. Dark Sky Committee Chair Powell Hall announced that Dr. Fields had asked this group to make a presentation at Tamke-Allan on December 1 and invited other interested parties to attend.

Treasurer Randy Smith reported that the BSAS' checking account balance was \$4,186.25 at November 18, 2004. John Harrington announced that copies of the Royal Astronomical Society of Canada's *Observers Handbook* would be available for purchase at the December membership meeting. Mr. Harrington also noted that Equipment Committee Chair Lonnie Puterbaugh was developing an inventory of the BSAS' telescopes and other equipment.

**Minutes of the Monthly Membership Meeting**, continued from page 6

Joe Boyd announced that the Long Range Planning Committee would meet on the second Tuesday of every other month with the next meeting scheduled for December 14.

Kris McCall announced that she would donate books for a silent auction at the December holiday supper. She suggested that others with items to donate should leave them at the Adventure Science Center's front desk by December 12. Ed and Mary English suggested that the Society consider developing distinctive bumper stickers and club t-shirts. They also suggested considering the Cedars of Lebanon State Park as a potential dark sky site.

Past President Joe Boyd thanked the membership for the plaque awarded to him at the October meeting. Mr. Boyd commented that some of the most rewarding developments during his two year tenure as president were the increased membership participation and the friendships fostered through activities undertaken by the Society. Mr. Boyd pledged his support for John Harrington, our current president.

John Harrington reminded everyone of the Society's upcoming events. Since there was no further business to consider, President Harrington declared the meeting adjourned at 9:23 P.M.

Respectfully submitted,

Bob Rice  
Secretary

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At the November membership meeting of the BSAS, Immediate Past President Joe Boyd read the following note of appreciation to the members. We reprint it here for the benefit of those who were not at that meeting.

\* \* \*

President Harrington and members of the Barnard-Seyfert Astronomical Society:

The presentation at the last membership meeting by President John Harrington of the plaque regarding my two terms as president of this organization was a complete surprise, so I would like to take this opportunity to respond to the presentation in an appropriate manner.

First, your thoughtfulness in the presentation is sincerely appreciated. The plaque itself is beautiful, an absolute treasure. It hangs proudly in our home.

Second, the past two years have been two of the most challenging, and at the same time most rewarding, of my career. We have had some unexpected difficulties arise, but all of them have been met and overcome. We have managed to turn lemons into lemonade. We have increased our membership, and one of the things we can all be very proud of is the increase in participation by such a large percentage of our members. We have people active now who were not asked to participate before, and who are now making a huge contribution to the success of the organization. And it is you, the members, who are responsible for the successes we have enjoyed. Your willingness to indulge in creative thinking and invest many hours of hard work made the difference.

Last, these have been two years of making friends. As we have worked together on committees, on our outreach projects, on our public and private star parties, on the Tennessee Star Parties, and in all of our other endeavors, we have very literally worked together, and have learned to like each other, appreciate each other, and trust each other. I shall count you as friends for life.

I expect to remain active in this organization for many years in the future. I pledge to John that I will be here to serve, but not to interfere. When NASA sends up a multi stage rocket, each stage builds on the one that was ignited before it. That is the way the BSAS should be, with each year being used to build on the ones before it. My thanks to the previous officers and boards. John is off to a great start in his administration, and I pledge to do my part to help him, and all of you, succeed in every way I can.

Thank you for allowing me the privilege of serving you as president these past two years.

Joe Boyd

## Activities and Events

January 1 – 31, 2005

December 1 — 31, 2004

12/2 Board of Directors meeting, 7:30, Jefferson Square  
 12/4 LAST QUARTER  
 12/5 Venus 1.3° N of Mars (27° W)  
 12/7 Jupiter 0.3° S of Moon, occultation  
 12/9 Mars 2° N of Moon  
 12/11 NEW MOON  
 12/11 Star party at Percy Warner Park 7:30pm  
 12/12 Large tides  
 12/13 Geminid meteors peak  
 12/16 BSAS Christmas Party & Membership meeting, ASC,  
 6:00 pm  
 12/18 FIRST QUARTER  
 12/21 Winter solstice at 6:42am CST  
 12/26 FULL MOON  
 12/28 Mercury 1.2° N of Venus (22° W)  
 12/29 Mercury greatest elongation @ (22°)

1/1 Location of the planets:  
 Pluto, in Serpens Cauda; Neptune in Capricornus; Uranus  
 in Aquarius; Saturn in Gemini; Jupiter in Virgo;  
 Mars in Scorpius; Venus in Ophiuchus; Sun in  
 Sagittarius  
 1/2 Earth @ perihelion  
 1/3 Quadrantid meteors, LAST QUARTER  
 1/4 Conj., Moon and Jupiter, occultation; Dark Sky  
 Committee, 7:30  
 1/6 Conj., Saturn and Pollux; BSAS Board Meeting, Jefferson  
 Square, 7:30  
 1/7 Conj., Moon and Mars, Mars and Antares; Moon occults  
 Antares  
 1/8 Conj., Moon and Mercury; Moon and Venus  
 1/10 NEW MOON  
 1/11 Conj., Moon and Neptune  
 1/13 Conj., Moon and Uranus; Saturn at opposition  
 1/14 Conj., Mercury and Venus  
 1/17 FIRST QUARTER  
 1/20 BSAS Membership Meeting, 7:30 ASC  
 1/24 Conj., Moon and Saturn  
 1/25 FULL MOON  
 1/31 Conj. Moon and Jupiter, occultation

Note: all dates & hours according to Central Time

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