



ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

Celebrating our 75th Year in 2003

September 2003

Barnard-Seyfert Astronomical Society

Meeting, September 18, 2003, 7:30 PM, Dyer Observatory

More than 100 planets have now been discovered in orbit around stars other than sun since the first one was discovered in 1995. °Moreover, ___ extrasolar systems with multiple planets have now been found. °Virtually all of the extrasolar planets have been located via the doppler-shift method, which looks for tiny wobbles in stars caused by planets in orbit around them. °Professor Greg Henry of Tennessee State University gained international renown as the first scientist to confirm an extrasolar planet by using a different method—watching for the small dimming of stars' light caused by the passage of planets in front of them, detectable via sensitive photometric devices. °We are very fortunate to have Prof. Henry as our speaker for the September's meeting of the BSAS. °He will speak about his photometric techniques, as well as the general topic of the hunt for extrasolar planets.

The September meeting will be the annual meeting at which the officers and directors will be elected.

FROM THE PRESIDENT

Joseph M. Boyd, Jr.

The month of August has been a great month for the BSAS. Several events and things have contributed to this, and I would like to name just a few.

Our membership meeting on 21 August was one of the best attended in years. The program was outstanding, and would have been suitable for every age group. The speaker from NASA's Huntsville facility described the next generation propulsion systems he is actually working on right now. It is wonderful to hear someone who is so enthusiastic about his work and what it will mean to the advancement of science and the advancement of mankind. His enthusiasm rubbed off on those who heard him.

Our new brochure is something we can distribute with pride. It looks professional and it makes our Society look professional. I have personally been asked several times lately at various events if we had a brochure, and I had to respond that we were working on one but had nothing to hand to them. Now, due to the result of many hours of work by Rachel and Brock Schippers in designing the brochure and the work by Bill Griswold to get it finalized and printed, we have something we can distribute that looks first class. This should help us in our recruitment of new members as well as in our efforts to bring back some who dropped out a few years back.

Long Hunter State Park was the scene on 16 August for a public event which attracted a large number of viewers, many of whom arrived before dark and stayed a long time until Mars made its appearance. Our members turned out in force to furnish the telescopes and the advice.

Then Saturday night, 23 August, we had one of our best public nights of the year, when over 780 people turned out at the Warner Park model airplane field to see Mars and other celestial wonders. Our BSAS members made us proud in the way they turned out with telescopes and explanations, and it was a pleasure to work with the wonderful Warner Park staff in putting on this program. There is a separate article on that event in this Eclipse, but I want to say here that this one event generated much comradery and enthusiasm among our members that will carry over into other aspects of our Society.

On Wednesday, 20 August, we instituted a first in our Society when we had the first meeting of the chairs of our BSAS committees. All board members were also invited to attend. All of our committee chairs except two and most of our board members attended this important occasion, which provided an opportunity for recommending changes in the committee structure, reporting on the activities of each committee to date, coordinating the work of the committees to both avoid conflicts and facilitate cooperation, and planning the committee work for the future. My plan is to have one of these meetings once each quarter. After hearing what the various committees are doing and what they are planning to do, everyone present came away with a renewed sense of enthusiasm and pride of accomplishment.

The committee structure established at the beginning of the year was set up without having the benefit of a prior committee structure to build on. We were starting from scratch. Now that we have some experience with our committees, there were some recommendations for minor but important changes, and these have been adopted. Our new committee structure is now on the BSAS web site for all of you to see.

Continued on Page 4

Happy Birthday, Viking 2

by Robin Byrne

Although not really a birthday, this month we celebrate an anniversary. The anniversary of the landing of Viking 2 on the surface of Mars.

Launched in 1975, the two Viking spacecraft were composed of two parts: an orbiter and a lander. Upon reaching Mars, the orbiter studied the planet and the atmosphere to help locate a landing site. Once the lander was on the surface, the orbiter acted as a radio relay station for information sent to and from the lander.

On September 3, 1976, Viking 2 separated from the orbiter and entered the thin atmosphere of Mars. Using a combination of a parachute and retro-engines, the lander slowed from 600 mph to 7 mph during its 4 mile fall. Seconds after landing on the surface in a region called Utopia, Viking began transmitting images back to Earth.

Both landers measured temperature, pressure and wind speed, and sent back plenty of pictures of the region around the landing sites. Viking 1 landed in a region near the equator, while Viking 2 landed farther north. The northern location of Viking 2 allowed it to photograph water frost deposits on the ground during the Martian winter.

However, the most notable experiments conducted by both Vikings were the ones designed to search for the existence of past or present life. The experiments searched for evidence of microorganisms. This consisted of three different experiments. The first looked for evidence of respiration (or breathing). Soil was scooped up and placed in a chamber that measured whether there was a change in the gases. (For example, when we breathe we take in nitrogen and oxygen and exhale carbon dioxide). The next tested for absorption of nutrients (or eating) by placing a soil sample in a solution of nutrients and testing to see if the nutrients were consumed. And, finally, they tested for any exchange of gases, either by a living creature or by some other mechanism within the soil.

Although some of the experiments gave slightly positive results, those results could also be explained by chemical interactions taking place in the soil without life being present. Had the same experiments been done anywhere on Earth (with the possible exception of in Antarctica), they would have easily detected life. Based on these results, we must conclude that the surface of Mars where they landed is currently lifeless.

Viking last sent a message to Earth on November 5, 1982. However, its end was not due to a mechanical failure, but rather to a human programming error. The good news is that Viking is now a museum piece. In 1981, NASA transferred ownership of Viking to the National Air & Space Museum. The bad news is that you have to go to Mars to see the exhibit. This is Earth's only official museum exhibit on another planet.

As we enjoy the Mars opposition and get ready for the upcoming landings of the MER landers, as well as the Beagle 2 lander, we can reflect on the achievement that preceded all of these events. Happy landings, Viking 2.

References: Viking Web Site <http://pds.jpl.nasa.gov/planets/welcome/viking.html> Voyages Through the Universe by Fraknoi, Morrison & Wolff, 1997

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: \$29.95
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 are \$20.00 per year for Regular and Family memberships and \$15.00 per year for Seniors (over 60 years of age), and \$10.00 for students (under 22 years of age). Please call President, Joe Boyd, (615) 386-3134 if you have questions. Dues can be sent to:

BSAS
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Nashville, TN 37215-0713

THE ECLIPSE NEWSLETTER

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bgriz@comcast.net

BSAS Officers:

Joe Boyd, President
John Harrington, Vice President
Jill Thompson, Secretary
A.G. Kasselberg, Treasurer
Powell Hall, Immediate Past President

Board of Directors

Mike Benson
JanaRuth Ford
Bill Griswold
Kris McCall
Greg Selah
Jill Thompson

Logo Photograph:
Francisco Diego

Regular Meeting of the Barnard-Seyfert Astronomical Society Board of Directors on August 7, 2003

The regular monthly meeting of the Barnard-Seyfert Astronomical Society's Board of Directors was called to order by President Joe Boyd at 7:50 PM on Thursday August 7, 2003 at the Jefferson Square Clubhouse. A quorum was present consisting of board members Joe Boyd, Jill Thompson, Mike Benson, Jana Ruth Ford, Kris McCall, and John Harrington. Four guests were Lonnie Puterbaugh, Ken Mayor, Dennis Williams, and Tony Campbell. All four are BSAS members. The minutes of the July board meeting were approved as presented. There was no treasurer's report due to the absence of the treasurer.

Jill Thompson reported on the current balance of the ALCON treasury. The present balance is \$8129.15. The items still outstanding (estimated cost \$1,850) are speaker reimbursement for Ron Wodaski and Richard Berry, payment of t-shirt costs, and payment of the cost for the group photo prints. With the subtraction of the \$2500 loan from the Astronomical League, the final balance is estimated to be \$3,779.14, to be divided 60/40 between the BSAS and the AL respectively.

Jill Thompson read Powell Hall's report on the meeting of the Dark-Sky Committee. Various possible sources of light pollution were discussed and certain members agree to take appropriate action. Also under discussion was the relationship of the Dark-Sky Committee to the newly formed IDA Middle Tennessee section. The next Dark-Sky Committee meeting is scheduled for Tuesday, 2 September.

Lonnie Puterbaugh had no additional developments for the equipment committee.

John Harrington noted that there is a change to the program for the membership meeting on Thursday, 21 August. Instead of a viewing of the acclaimed BBC astronomy television series "Hyperspace," the program will be Bradley Carlson, from the Marshall Space Flight Center, discussing jet propulsion technology and how that can help in our investigation of Mars. Kris McCall and Joe Boyd will report that information to the media.

Kris McCall reported on the Publicity Committee meeting that took place on Monday 4, August. ALCON activities were reviewed and plans made for TNSP 2003. Kris noted that more information is needed from Lloyd Watkins in regard to TNSP. The next Publicity Committee meeting is scheduled for the second Monday of September instead of the first to avoid conflict with the holiday.

There was no report on TNSP 2003 because Lloyd Watkins was not present.

Joe Boyd reported that the new brochures for the club would be available the week of 11 August. Bill Griswold will take it to the printer. Plans are to make 2500 copies on slick paper.

Lonnie Puterbaugh talked to Warner Park about moving back the time for the Star Party at Warner Park on the 23rd of August. It was too late to do that, but Lonnie was told that we could stay as late as we want.

John Harrington will direct the Nominations Committee to replace the Director position vacated by Jill Thompson when she moved into the Secretary position.

Joe Boyd reported the Dr. David Ernst, head of the Department of Physics and Astronomy at Vanderbilt University, invited the BSAS to participate as a sponsor for the Seyfert Lecture. A monetary donation is not required, but he suggested a donation of \$300 to help endow the Lecture. If we do make a donation, we will then be a permanent sponsor. There was extensive discussion. Mike Benson moved that the BSAS participate in the Seyfert Lecture program and that the club contribute \$300 to the endowment fund for the Lecture. John Harrington seconded the motion, which passed unanimously. Additionally discussed was the possibility that the BSAS will sponsor a luncheon in conjunction the Lecture. The date for the Lecture has not been finalized yet.

The next topic of discussion was whether or not the BSAS would participate in the "War of the Worlds" program slated for 27 August and hosted by the Franklin Drama Reserve. Many concerns were presented in regard to this program and John Harrington was assigned to get more information from Shane Caudill before any decision was made.

Joe Boyd indicated that he would like to appoint someone to the Outreach Committee to coordinate BSAS participation in various events. The Board authorized Joe to appoint someone and Joe will take the appropriate action before the next membership meeting.

Joe Boyd suggested that a separate mentoring program be set up and this was approved without objection.

Joe Boyd then opened the discussion of sponsoring a teleclinic. Numerous and serious concerns were declared. It was decided that more thought was needed and it would be brought up at the next meeting.

Also to be brought up at the next meeting is the Annual Educators Conference. Joe Boyd has very little information at this time, but is interested in pursuing it.

Tony Campbell presented various suggestions for improvements that could be made on the BSAS web site. These suggestions were met with a lot of enthusiasm from the Board members and Joe Boyd will do more work on this.

Board of Directors Meeting, continued from Page 3

In addition, Joe Boyd discussed his visit to an observatory on the Door Peninsula of Wisconsin that was set up using a grant from the National Endowment for the Arts. Joe indicated that there was no reason that the BSAS couldn't have a place like that as well. The Long Range Planning Committee and Equipment Committee will discuss possible locations and work on applying for a grant.

It was announced that Bob Rice has donated a 60 MM ETX to the club. Also, Mike Benson suggested that the club do something nice to honor the hard work of Evelyn Wright. Finally, the Board voted in favor of reimbursing Powell Hall for the purchase of Edmund Scientific's Mag 5 Star Atlases.

With no objection, Joe Boyd declared the meeting adjourned at 10:15 PM, in order to bring in and distribute copies of the *Traveler's Guide to Mars* by Philip Hartman.

Respectfully submitted
Jill Thompson, Secretary

For Sale

Nexstar 11 GPS - \$2500 (to BSAS Members)

2 years old, in excellent mechanical and optical condition

Bob's Knobs

Includes latest version handset from Celestron & all downloadable upgrades

Computer patch/programming cord

Ac power supply

Dc power cable w/cigarette lighter plug

TV 1.25" diagonal

Tripod, with Starizona "Landing Pad"

Users manual

Military transit case for 'scope storage and transportation

I do not have a CCD camera, but feel free to check Astromart history - Jim Lauck

e-mail Jim Lauck at jtlauck@att.net

or call (423) 886-9993 (6-9 PM Eastern, M-Th)

From the President, continued from Page 1

One of the committee changes is the combination of the Outreach and Liaison Committees into one committee to be called by that name. John Green has agreed to chair that combined committee, and he and his committee members will set up a procedure whereby we can coordinate our work with other agencies, set up our schedules with them, and respond more quickly and efficiently to the many requests we are suddenly getting for speakers and programs.

For some time the Seyfert Lecture series has been carried out by Vanderbilt with no input from the amateur community. Dr. David Ernst, the Chair of the Department of Physics and Astronomy, has invited the BSAS to be a cosponsor of this year's lecture and to cosponsor the lecture series in the future. The Board of Directors has voted to accept the invitation and to cooperate fully in the program both now and in the future. The full details will be set out in the next issue of the Eclipse, but I agree with Dr. Ernst that working together on a common project such as this is truly the kind of relationship we should have.

Finally, our BSAS web site is being totally revamped. I will have more to say on that in the next issue, but in the meantime, make your suggestions to Tony Campbell and check out what has already been accomplished.

Now you see why I am so happy with the way things are going. Our members are coming to us and volunteering to work on our various projects, and the future looks VERY bright.

Minutes of the Regular Monthly Membership Meeting of the Barnard-Seyfert Astronomical Society on August 21, 2003

President Joe Boyd called the BSAS regular monthly membership meeting to order at 7:35 PM Thursday, August 21, 2003 in the library of Dyer Observatory.

The first item on the agenda was the recognition of visitors and new members. New members Robert Norfleet and Kimberly Thompson were introduced. There was also a large number of visitors, one of whom was Dan Harrington, father of BSAS Vice-president John Harrington.

As there were no additions or corrections to the last meeting's minutes, they stood approved as presented.

Joe Boyd made several announcements. First, he noted that the star party at Long Hunter State Park on August 16 was a resounding success. He also announced that the list of committees had been revised and will be placed on the web site. Special mention was made of the fact that the outreach committee will be combined with the liaison committee. Also, the finance committee has expanded to include grant-writing, especially in regard to outreach and equipment acquisition. In addition, Joe mentioned that the brochures have been completed and that copies would be distributed at the end of the meeting. Special thanks go to Brock and Rachel Schippers for their work on the layout and design. He also thanked Bill Griswold for the tremendous amount of work that he devoted to this project. Joe reminded all present that we should be frugal in the distribution of the brochures, so as to put them to the best use.

Jill Thompson announced that the group photos from ALCON 2003 had been received and those who had paid for copies could claim theirs. If anyone else wished to purchase one, additional copies would have to be ordered, because all copies presently in hand were already reserved for someone. \$6.00 is the cost of the photo.

Treasurer A.G. Kasselberg announced that there was \$4887.04 in the BSAS bank account as of Friday 15 August, \$596 of which was from registration for the TNSP 2003.

After an inquiry from Joe Boyd, Rocky Alvey indicated that he had enough volunteers for Dyer Public Nights on August 22 and 26 and that he was unsure about the number of volunteers for 11 September, as Martha Splain was handling the volunteers. A sign-up list was circulated for volunteers for the 11th and also for volunteers who would be attending the Public Stargaze at the Warner Park model airplane filed on Saturday 23 August.

Lloyd Watkins spoke about the upcoming TNSP 2003 and made a request for volunteers. A sign-up list was distributed for that as well. Tony Campbell was congratulated for adding a link to obtain specialized driving directions to the TNSP.

Joe Boyd announced for Powell Hall that the first meeting of the IDA Middle Tennessee will be held at 2 PM on Saturday 13 September at the Adventure Science Center. He also announced that we had a few t-shirts from ALCON that are still available for purchase.

Participation in the Franklin Drama Reserve's "War of the Worlds" dramatization at Warner Park was discussed. Roy Miles moved to "pass" on participation in the event, which Bill Griswold seconded. Greg Selah requested further discussion, after which, the motion passed with 2 dissenting votes.

Joe Boyd informed the membership that certain school systems have been asking students to purchase telescopes from Wal-mart. These telescopes are not of good quality and Joe expressed great concern that attempting to use them will drive people away from astronomy. He requested that John Harrington investigate who is sponsoring this promotion and what the relationship with Wal-Mart is.

John Harrington, Vice-President and Program Chair, introduced the speaker for that evening. Bradley Carlson from the Marshall Space Flight Center in Huntsville, Alabama discussed various forms of advanced propulsion systems and how they might help us reach Mars in the future. As an expression of appreciation, Joe Boyd presented Mr. Carlson with an ALCON t-shirt at the end of his talk.

At 9:30 PM Joe Boyd adjourned the meeting and encouraged all present to take advantage of the social hour and the refreshments provided by Pam Thomas.

Respectfully submitted,

Jill Thompson
Secretary

Dyer Mars Report, August 26

The last person to view Mars was at 4:45AM. The estimate on those that viewed Mars on the Seyfert Telescope was between 1000 - 1125 persons (an average of 23 seconds per person at the eyepiece). At least another 1000 to 2000 were lined up in cars. At 11:30 PM we asked the police to turn folks away at Granny White and Oman Drive, when it became obvious that we couldn't physically run more people through than were already waiting in line.^o The line of persons on the hill waiting to get in, extended past the gates of Dyer.

Although our advertised opening time was 11:00PM, many media sources reported 9:00PM. so people started arriving at 7:00. All available parking spaces were filled by 8:15. Many parked on the road and walked up from the bottom of Oman Drive. The line of cars extended to Old Hickory Boulevard to the south and I don't have a clue how far it went to the north on Granny White Pike.

I was listening to the news last night when Dan Miller looked at Demetria and asked "Do you know how many people tried to go to Dyer last night", Demetria said "no" Dan responded "about 25 million, I tried to, but couldn't get in"

Dr. Heiser tells me this event was the record for visitors at Dyer in one night.
That is my Mars Night report from Dyer.

Rocky

SUCCESS AT WARNER PARK

On Saturday, 23 August, Barnard-Seyfert Astronomical Society, Warner Parks, and the Sudekum Planetarium cosponsored a public star night at the model airplane field in Warner Park. The Warner Park staff turned out in force to direct traffic and show the visitors where to park and how to reach the telescopes in the dark. Kris McCall welcomed the public and directed the many families to the telescopes. Our BSAS members set up in a semi-circle, with a BSAS booth at the beginning.

JanaRuth Ford manned the BSAS booth, distributing our new brochures and telling people about what BSAS does. She passed out membership applications to those who were interested, and generally educated the public on what BSAS is, what it does, and who belongs to it. This is the first time a booth like this has been set up, with the new banner in the back, and tables across the front. Heinrich Tischler, JanaRuth's husband, assisted Lonnie and Karen Puterbaugh and JanaRuth in setting up the booth. The booth was an instant success. Although the viewing could not start until after 2100, when it finally became dark enough to view the night sky, Mars did not really appear within viewing range until 2130, so the early time was spent talking to and educating the members of the public.

Highlights of the event included the booths set up by Lonnie Puterbaugh and Dennis Williams, which featured video astronomy projected on a television screen. This viewing was made possible by the fact that Warner Park personnel were able to provide an extension cord so that Lonnie and Dennis could use their television screens to show what was appearing in their telescopes to the fascinated public attending the event. The circle of telescopes ringing the field provided an opportunity for each member of the public to view Mars through every type of scope represented.

BSAS had excellent representation that night with Don Bailey, Mike Benson, JanaRuth and Heinrich, Lonnie and Karen, Evelyn Wright and Larry Southerland, Brock and Rachel Schippers, Joe Kuhl, Kris McCall, Powell Hall, Dennis Williams, Chuck Schlemm, Terry Reeves, Jill Thompson, Lloyd Watkins, and Joe and Mary Boyd.

Joe Boyd

“War of the Worlds” Report

In case you don't know how it ends, Earth survives.

Shane Caudill from Franklin Drama Reserve estimates they had about 2,000 people. Considering the nasty rain earlier in the afternoon and thin clouds, they had a very successful event. From where we were on the airplane field, everything seemed to go smoothly.

Chuck Schlemm, BSAS member and National Space Society guy, set up a booth down with the rest of the vendors. He reports that he talked non-stop from 7:30 ? til almost 10 pm when he came up to see us. There were LOTS of families and as well as young adults.

Drew Gilmore and I set up on the airplane field at about 6:30 pm - just so we would be ready. Yes, there were clouds, but there was this tantalizing blue patch of sky to the north. Before leaving the Planetarium, I had talked to a local weather forecaster, who shall remain nameless, who told me that the clouds should break up by 9:30. It would take several hours, but they should open up for us to observe.

We had plenty of people to talk to starting at 7 pm. The first family had two boys who immediately wanted to jump on the telescopes, and mom seemed to have NO control or sway over these urchins. Other than those two heathens, most everyone else was great and refrained from touching the equipment.

I had plenty of September star charts to pass out which features an “article” about the Tennessee Star Party. Even though we could not see Mars, we had lots to talk about. We talked about how Mars has been there several weeks and will still be visible for a few more. People wanted to know why this event was so significant. They were amazed that they could go out and see it from home with their unaided eyes. Talking with us, many confirmed that that bright dot they saw the previous night was indeed Mars. There were a great number of people who asked when the next star parties would be. I suggested they go to our website to keep up with developments, but that there would be one in Gallatin this weekend and another public night at Dyer on September 11th. I suspect there will be a LOT less people at Dyer that evening, Mars will still be a good show, and it should be much less harried than Tuesday night.

I wonder when Dyer finally closed Wednesday morning? Rumor has it there was a FIVE hour wait to look through the telescope. One family tried twice to go to Dyer, but the traffic at Granny White and Oman was too much.

It was wonderful to have the new BSAS brochure to pass out to visitors. I talked to dozens of people who expressed an interest. My favorite was the older woman who said that she has a telescope and showed her children when they were young. Now, they are grown and moved away and she is alone. The passion for astronomy is rekindled, and she is eager to get involved with BSAS.

It was a fine way to spend an August evening. It was comfortable with a light breeze blowing across the field. It's not many star parties where you have live music. The one downside was that the clouds did not break up as promised/advertised. They teased us all night long. When the play ended, several hundred people came up to the scopes. Yes, they were disappointed that we could not see anything at that moment, but they all got star charts and the spiel about Mars and will be checking the website for information about upcoming events.

At about 10:15, the thin veil of water vapor that had been obscuring our view slipped away briefly, and those die hards who were still hanging around asking questions and listening to answers got to see Mars. The clouds would cover it for a few minutes, and there would be this collective groan; only to be replaced by shouts of joy when the clouds moved away again. We played cat and moused with Mars for the next two hours, and I would estimate that at least two hundred people got to see Mars.

We had two other telescopes join us. Earl set up his 4 1/2 inch reflector, but had some difficulty operating it. He plans to join BSAS so he can learn more about how to use his telescope.

David brought his 10 inch dob. He did not set it up until later after Mars graced us with its presence. It seems that he moved here from California where he got spoiled by the weather. He also plans to find BSAS.

I must give credit to a silent and unsung hero. Betty, who works here at the Science Center, came out for about three hours and helped us distribute materials and keep an eye on the equipment. She made it possible for Drew and I to concentrate all our attention on the visitors. THANK YOU BETTY!!!

Mars wasn't great, I didn't get to see the play, and my feet hurt today, but I met hundreds of really terrific people. We loved Tony's suggestion about doing something for Halloween 2005. I'm going to look into it.

That's it for now. Thank you to everyone who extended their support to this effort. We couldn't do it without you.

Activities and Events
September 1 - September 30, 2003

- 9/3 FIRST QUARTER
 9/4 Board Meeting, 7:30 p. m. at Jefferson Square Condominiums
 9/7 Conj., Neptune & Moon
 9/9 Conj., Uranus & Moon; Moon & Mars, occultation
 9/10 FULL MOON; Mercury at inferior conjunction
 9/18 LAST QUARTER; BSAS meeting, 7:30 p. m., at Dyer Observatory
 9/19 Conj., Moon & Saturn
 9/23 Autumnal Equinox; Conj., Moon & Jupiter
 9/24 Conj., Moon & Mercury
 9/25 NEW MOON
 9/26-28 TNSP 2003 AT CAMP NAKANAWA
 9/26 Rosh Hashanah begins at sundown; Mercury at gr. western elong. (i. e. in morning sky)

October 1 - October 31, 2003

- 10/2 FIRST QUARTER; Board meeting, 7:30 p.m.
 10/3 Conj., Venus & Spica
 10/4 Conj., Neptune & Moon
 10/5 Yom Kippur begins at sundown.
 10/6 Conj., Uranus & Moon; Mars & Moon, occultation
 10/8 Draconid meteors
 10/9 Draconid meteors
 10/10 FULL MOON
 10/16 BSAS meeting, 7:30 p.m. at Dyer Observatory
 10/17 Conj., Moon & Saturn
 10/18 LAST QUARTER; Conj., Moon & Jupiter; Orionid meteors
 10/22 Orionid meteors
 10/23 Orionid meteors
 10/25 NEW MOON; Mercury in sup. conj.; Private Star Party, Natchez Trace site
 10/26 Conj., Venus & Moon, occultation; Daylight Saving Time ends.
 10/31 FIRST QUARTER

BSAS c/o Dyer Observatory
 1000 Oman Drive
 Brentwood, TN 37027