



ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

November 2002

FROM THE PRESIDENT

By Joseph M. Boyd, Jr.

In my column last month, I told you, the membership, that there were certain goals we should accomplish. Some of them are already underway.

I have set up a committee structure, which was endorsed by the board of directors at the October meeting. Three of the committees have already been appointed — the Long Range Planning Committee, the ALCON 03 Committee, and the Hospitality Committee. The latter is already functioning, and those who attended our membership meeting on the 17th saw the results. The committee members called on various members to bring refreshments for the reception for Rick and Brenda Chappell, and there was enough food for twice the number who attended. We appreciate all of you who helped host it and who participated. The Long Range Planning Committee will be meeting soon, and will take three or four months to do its work.

The ALCON 03 Committee consists of those who will be planning and executing the National Convention of the Astronomical League, which will be held in Nashville next summer. We will try to have an article in the next issue of the Eclipse to give a status report on the work so far. The committee met on Sunday evening, October 19th, and spent over four hours organizing the work. The committee will be calling on many of you during the coming months to help with the convention, for as we used to say in the Navy, this will be an “all hands evolution”.

In the next issue of the Eclipse, we will try to have a description of each committee, and a list of those assigned to each one.

While we are on the subject of committees, I have spent several hours this month contacting the BSAS members, for four purposes. First, I am trying to get the basic information about each of you, so you can be easily contacted and so we know who to assign to the various committees, based on your particular interest and qualifications. Second, I want to offer every member the opportunity to serve on a committee. Most of you have responded very favorably to my request that you agree to serve on a committee, and I appreciate your spirit of cooperation and willingness to serve. I do not want it said that this is a “good old boy” club. Every one of you is important, and each has a talent that can be of service. Third, I want to explain to you what we are doing and ask each of you to attend our membership meetings. Our program chair and committee are working hard to have outstanding programs. It is embarrassing when we have an outstanding speaker, and only a few people show up. And fourth, I want to get your ideas for how we can improve what we are doing in BSAS. Several of you have made some very good suggestions, and continued on page 3

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 Treasurer at the following address:

BSAS
Dyer Observatory
1000 Oman Drive
Brentwood, TN 37027

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 the Dyer Observatory (373-4897) if you have questions. Dues can be sent to:

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

THE ECLIPSE NEWSLETTER

Editor: Bill Griswold
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BSAS Officers:

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

Board of Directors

Mike Benson
John Bradford
Bill Collins
JanaRuth Ford
Bill Griswold
Kris McCall

Logo Photograph:
Francisco Diego

Special Meeting of the Barnard-Seyfert Astronomical Society Board of Directors on October 8, 2002

Chair Joe Boyd called the meeting to order at 7:39 PM on October 8, 2002 at the Jefferson Square Clubhouse. A quorum was present consisting of board members Joe Boyd, John Bradford, JanaRuth Ford, John Harrington, Kris McCall, and Evelyn Wright. Board members absent were Mike Benson, Bill Collins, Bill Griswold, Powell Hall, and A.G. Kasselberg. Guests attending were Larry Southerland and Lloyd Watkins. The minutes of the last board meeting as printed in "The Eclipse" require a correction in that the meeting was the Annual Board Meeting, not a Special Board Meeting. A motion was made to approve the minutes with that correction. It was seconded, and approved unanimously. There was no treasurer's report due to the treasurer's absence.

Lloyd Watkins gave a preliminary report on TNSP 2002, displaying pictures on his laptop computer. A.G. Kasselberg is working out the bottom line, but the 170-180 attendees seemed happy with the event in spite of excessive dew during the spectacular Saturday night sky (the Milky Way was visible from one horizon to the other). The owners of Camp Nakanawa sent a thank you note for how clean the camp was left. Lloyd mentioned that next year a dual track of events may be scheduled, one for beginners, and one for the more advanced, with more and longer breaks between speakers. More and better signage was encouraged both to help find and to navigate within Camp Nakanawa. Richard Berry suggested that the club collect used AA batteries, acquire some red LEDs, and light the way out to the observing field. It was suggested that there be a breakdown of tasks so that members could help without having to bother the coordinators with too many questions. One disappointment was no telescope parts for the build-your-own scopes. One or two people received a refund, while others opted to wait for the parts to come in. Next year, Lloyd plans to order the parts for ten telescope kits five or six months ahead of time and assign them to registrants on a first-registered, first-served basis. Lloyd has already signed a contract with Camp Nakanawa for TNSP 2003 for the weekend of September 26, 2003, and Lloyd would like to have a mission statement for the event. Joe Boyd expressed his appreciation for everyone involved in TNSP 2002, and John Bradford volunteered to determine how to show the club's appreciation.

John Harrington gave a report on upcoming programs for BSAS membership meetings. While there may be some changes, Dr. Rick Chappell will speak on his plans for Dyer Observatory in October, Powell Hall will give the program for November, and Dr. Richard Schmude will speak at the December meeting following the holiday potluck supper which will start at 6:30 PM. The BSAS board will provide a main course, and everyone else should bring side dishes or desserts. TSU professor Greg Henry, extra-terrestrial planet hunter, is scheduled for the January meeting.

Under old business, a motion was made that the club sponsor a welcoming reception at the October membership meeting for Dr. Chappell and invite his colleagues from the Vanderbilt Public Affairs and Physics and Astronomy Departments. The motion was seconded and passed unanimously. Joe Boyd will send the invitations, and contact the Hospitality Committee to arrange refreshments, with setup starting at 6:30 PM to get tables arranged.

Other old business included the club budget and recurring items such as Astronomical League dues, Astronomical League public event insurance policy, and International Dark-Sky Association dues. Evelyn Wright noted that there is no copy of the public event insurance policy in the club's records. Also, the re-keying of Dyer Observatory requires that new keys be given out. It was suggested that the keys be given to certain members such as BSAS officers who would then pass them on to the new officers each year, rather than trying to keep up with who had been given keys.

Joe Boyd then distributed a list and descriptions of committees he set up for the BSAS, and discussed who he would like to be on them. John Harrington moved that the board approve Joe Boyd's list of BSAS committees for 2002-2003 along with the Liaison and TNSP 2003 Committees that were not described in the list. The motion was seconded and discussed. A vote was called for, and the motion carried. By consensus, the board also approved Joe's appointments to those committees. Where and when the committees will meet may be left to the committees themselves, but Joe Boyd suggested meeting early on public nights at Dyer Observatory, and Kris McCall said the Cumberland Science Museum could be used on a case-by-case basis so long as there were no schedule conflicts.

Joe Boyd noted that the secretary should be keeping an up-to-date list of members. He will make the information he gathered during his committee research available, but the membership forms should also be accessible. Since space is being made available to the BSAS at Dyer Observatory, JanaRuth Ford suggested that the treasurer collect the forms in a folder once he is done with them. The club secretary could then access the forms to keep the membership list up-to-date.

JanaRuth Ford hoped there would be time to regroup over the winter in order to have specific assignments for volunteers on Dyer public nights. Joe Boyd offered to train people on the DeWitt scope, and Lloyd Watkins has a training book on the C-14. JanaRuth also mentioned that Vanderbilt graduate students might be employed on the

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Board Meeting, continued from page 2

Dyer scopes which would leave only menial tasks for the BSAS volunteers. Lloyd Watkins noted that the BSAS members could bring their own scopes and set up on the lawn or roof in that case.

Regarding the meeting place for regular membership meetings for December, January and February, Kris McCall noted that the meetings were already on Cumberland Science Museum's calendar, and the board agreed to meet there by consensus.

John Harrington has received no response from The Ensworth School Project about his letter encouraging the use of cut-off lighting. Bill Collins had notified Joe Boyd that his contact may no longer be chairman of their board. Joe Boyd reported that the current chairman is Hill McAlister who may be a relative of a past governor of Tennessee. John Harrington will try contacting him.

John Harrington moved that letters of invitation to TNSP 2003 be sent immediately to organizers of regional star parties to make sure the date of TNSP 2003 is on record. John Bradford seconded the motion which passed unanimously.

Since tax exempt organizations must keep records forever, and since a motion was passed last December to approve the purchase of minute books and paper, Joe Boyd will go ahead and purchase the minute books and paper.

John Bradford and John Harrington volunteered to bring refreshments to the next board meeting. With no objection, Joe Boyd declared the meeting adjourned at 9:22 PM.

Respectfully submitted,
Evelyn Wright, Secretary

President continued from page 1

these will be shared with the officers, directors, and committee chairs for implementation.

One suggestion several of you made during my phone calls was to get the Eclipse out before the first of the month, so the schedules will be available in plenty of time. Let me assure you this has been taken care of. Our Eclipse Editor, Bill Griswold, is adamant that the Eclipse should go out early, and he is already cracking the whip on all of us to demand that we get our articles in on time.

Some of you responded that you wanted more articles in the Eclipse about astronomical things. We will definitely work on that. Let me explain why we put the minutes of the board of directors meetings and the membership meetings in the Eclipse. Most members do not attend the board meetings, even though any member can attend and will be welcome. Therefore, the minutes are the only opportunity you have to know exactly what goes on at those meetings, in which much of the business of the Society is conducted. The minutes of the membership meetings are included so those who did not attend can know what went on, but, more importantly, to allow them to be read before the meeting, so they do not have to be read or even distributed at the meeting. This saves a lot of meeting time, and dispenses with something that can take a lot of unnecessary time. We hope you understand and will appreciate what we are trying to do. In the meantime, we will try to have more substantive astronomical articles for your enjoyment.

Thus far, I have talked to 62 of you, either in person or by phone. I have tried to contact the rest of you, but in a few cases, I do not have your phone number, and have been unable to get it. If you have not been contacted, don't hesitate to call me at 386-3134 to give me your number and email address, or contact me by email at boydjoe@alumni.vanderbilt.edu.

With the Tennessee Star Party 2002 such a success, thanks to the untiring efforts of Rocky Alvey and Lloyd Watkins, and with the reception for the Chappells such a nice affair, thanks to Melissa Miles and her committee, we are on a roll. Let's keep up the good work, and have fun doing it.

Thanks from the Director of Dyer Observatory

Many thanks for the reception and the notes from BSAS members. Brenda and I enjoyed meeting everyone and I appreciate the opportunity to share ideas about the future to the members. Please let the hospitality committee know how great we thought the reception goodies were. I look forward to working with you and the club.

Rick Chappell

Minutes of Regular Monthly Membership Meeting of Barnard-Seyfert Astronomical Society on October 17, 2002

Following a reception for new Dyer Director Dr. Rick Chappell, the meeting was called to order at 8:07 PM on Thursday, 17 October 2002 by President Joe Boyd in the library of Dyer Observatory. Approximately 40 members and visitors were present, including several members of the Vanderbilt University faculty. All were encouraged to update their phone numbers and addresses on the circulating attendance list.

Powell Hall's motion to approve the minutes of the September meeting as published in the October issue of "The Eclipse" newsletter was seconded by John Harrington, and voted in favor of. Joe Boyd gave a summary of his efforts of the last month to create and fill several committees, including an Operations Committee to oversee the other committees. He asked that he be notified of any committee meetings so that he or Vice President John Harrington can attend. He noted he was encouraged by the enthusiasm of the 40 or so people he had contacted to serve on committees, and hopes to continue the mutually advantageous working relationship with Dyer Observatory.

Treasurer A.G. Kasselberg reported that the club has \$5265.64 in its account, with \$1324 known outstanding debts and more debt expected for TNSP 2002 t-shirts. He estimated that the club has about \$3100 in available funds.

TNSP 2002 coordinator Rocky Alvey displayed pictures of the event and expressed his thanks to all who volunteered. He estimated about 200 people attended with another 50 scared away by the hurricane. He said Richard Berry, well-known author of do-it-yourself books on telescope and CCD making and CCD image processing, called it the most pleasant star party he has ever attended.

Mike Benson gave a report on ALCon 2003. A few speakers are lined up, and there will be a meeting Sunday, October 20 at 5:00 PM at Lloyd Watkin's house (contact Mike or Lloyd for directions, and bring something for the potluck dinner). High on the list of things to do is devising letters to attract speakers and vendors.

John Bradford presented awards to outgoing Board Chair Kris McCall and Past President Powell Hall for their outstanding work in the past years, both receiving enthusiastic applause. The plaque inscriptions follow.

To Powell S Hall
Your Leadership is Invaluable.
Your Smile and Your Intellect
Brighten the Night Sky.
You are Our Guide Star.

The Barnard Seyfert Astronomical Society

To Kris K. McCall
For Years of Commitment
And Countless Accomplishments
The Barnard-Seyfert Astronomical Society
Offers Our Most Cherished Appreciation.

John Harrington then introduced the night's speaker, newly appointed Dyer Director Dr. Rick Chappell, with a long list of accomplishments in his career in space and science, both in research and in getting oncoming generations interested in it. Dr. Chappell noted the rich astronomical heritage of Vanderbilt University and Dyer Observatory, and steps taken to preserve it. He intends to build on the good foundation Dr. Doug Hall built getting amateur astronomers involved in public outreach activities such as public nights.

Dr. Chappell mentioned three connections he would like Dyer Observatory to pursue in its public outreach activities: Astronomy, Sun-Earth, and Space Exploration. He said that one of the biggest advantages of coming to Dyer is getting to work with Rocky Alvey, and noted the strides Rocky has made in solar viewing related to ISS-AT. Regarding space exploration, he would like to have a "Corps of Exploration" similar to the "Corps of Discovery" that Lewis and Clark led at the request of President Thomas Jefferson to appraise the Louisiana Purchase. Dr. Chappell asked for suggestions regarding how to expand the outreach and accessibility of Dyer Observatory while keeping its magical atmosphere. Some suggestions were sessions on explaining, building, and using telescopes; partnerships with churches to show that science and religion are compatible; and making sure the public knows Dyer Observatory exists by providing information or an on-going column/15-second spot for local newspapers and television stations. Dr. Chappell mentioned that he is considering shifting some of the public nights to Friday night to avoid school night conflicts, and would like feedback on this. He ended by thanking the BSAS for the kindness it had shown him.

Joe Boyd returned to business by asking John Harrington to speak on The Ensworth School Project. John related that he had not heard anything from the chairman of its board of trustees on his letter encouraging cut-off lighting, but the chairman had been out of town.

Joe Boyd encouraged everyone to change over to receiving "The Eclipse" by email to reduce printing costs, which are not quite covered by the membership dues. He also said he plans to publish his committee assignments in the

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Membership Meeting, continued from page 4

next issue of "The Eclipse". He mentioned that committee meetings could be held at Dyer Observatory or Cumberland Science Museum if there are no conflicts. Joe also reported that the board voted to hold the December through February meetings at Cumberland Science Museum to avoid trying to get up the road to Dyer Observatory in the winter.

Other announcements included an invitation to the Middle Tennessee Mensa test occurring at the Green Hills Public Library on Saturday, October 19 at 1:15 PM. Bill Griswold wants to receive all articles for "The Eclipse" by the 20th of each month. Lonnie Puterbaugh will be giving video astronomy training sessions at his house, and asked those interested to meet afterward to decide on dates. Powell Hall mentioned that the Leonids should be spectacular, and Lonnie said several are planning to go out to the Natchez Trace darksite on Monday, November 18th, with the meteors becoming noticeable after 1:00 AM November 19th and peaking around 4:00 AM. A.G. Kasselberg said he will have copies of the Royal Canadian Observer's Handbook for sale, and that the space shuttle landing can be viewed about 10:45 Friday on Dyer's NASA channel. Kris McCall said the NASA channel is also available at Cumberland Science Museum. Joe Boyd recommended that there be training on the scopes at Dyer so that the same person does not have to talk the entire 2-3 hours on public nights.

With no objections, Joe Boyd declared the meeting adjourned at 9:29 PM.

Respectfully submitted,
Evelyn Wright, Secretary

DIRECTIONS TO THE NEW BSAS DARK-SKY SITE

- Go west on Old Hickory Blvd. from I-65, 4.5 miles to Hillsboro Rd. Go south on Hillsboro Rd. for 3.4 miles to Highway 46 and turn right. You will see Grassland Elementary school on the left as a landmark.
- Follow Highway 46 for 5.8 miles to Highway 96 and a flashing red light.
- Continue straight on Highway 46 for 6.0 miles through Leiper's Fork to a right turn just outside of town, to stay on route 46.
- Continue on Route 46 for 0.9 miles to Natchez Trace Parkway.
- Follow the entrance ramp to the Parkway and turn right, toward Tupelo, Mississippi.
- Follow the Parkway for 17.2 miles, passing Old Trace and Burns Branch, to the "Water Valley" overlook. Our site is the parking area.

(THIS NEW SITE IS 12 MILES FARTHER SOUTH PAST THE OLD SITE WHICH WAS AT MILE MARKER #424)

Upcoming events

2002 Upcoming events				CSM = Cumberland Science Museum	
Th	Nov	7	700 PM	Jeff. Square	board mtg
Th	Nov	21	730 PM	Dyer Obsrv.	reg mtg - spkr: Powell Hall
Fr	Dec	13	730-930 PM	Warner Park	public stargaze - Geminids
Th	Dec	19	630 PM	CSM	holiday potluck
Th	Dec	19	800 PM	CSM	reg mtg - spkr: Dr. Schmude
2003 Upcoming events					
Th	Jan	17	730 PM	CSM	reg mtg - spkr: Greg Henry
Fr	Feb	7	730-930 PM	Warner Park	public stargaze - Jup, Sat
Th	Feb	20	730 PM	CSM	reg mtg
Th	Mar	21	730-930 PM	Dyer Obsrv.	reg mtg
Fr	Apr	25	8-10 PM	Warner Park	public stargaze - Astr. Day Eve
Sa	Apr	26		CSM	Astronomy Day
Tu-Sa	Jul	8-12		Embassy Su	ALCon 2003
Sa	Aug	23	8-10 PM	Warner Park	public stargaze - Mars

Happy Birthday Henry Gellibrand

by Robin Byrne

This month we look at the contributions of one of the lesser known astronomers. Henry Gellibrand was born on November 17, 1597 in London, England. He attended Trinity College, Oxford from 1615 to 1623, receiving both a B.A. and M.A. in mathematics. It was here that he first met and became friends with Henry Briggs, a mathematician who championed the use of logarithms. After leaving college, Gellibrand spent 4 years as a church curate before becoming the chair of astronomy at Gresham College in London.

Gellibrand's most significant contribution to science was to prove that an age-old belief was wrong. In 1635, Gellibrand published results from his study of the Earth's magnetic field, and in particular, the magnetic declination, which is the angle between geographic north and the north magnetic pole. Because magnetic north is not exactly at the Earth's North Pole, the angle between the two will vary with your position on the Earth. This difference was mapped out for navigation purposes to get an idea of your ship's longitude and latitude. However, Gellibrand discovered a problem: magnetic declination changed over time. Between the years 1580 and 1643, the declination changed from 11.3sE to 4.1sE. This means that any charts and tables based upon data more than a few years old will be incorrect. That could prove fatal to the shipping industry.

However, this discovery had other consequences. Namely, HOW could magnetic north change with time? This was contradictory to the idea that the magnetic field was somehow fixed into the Earth. The person who came up with a solution was Edmund Halley, of Halley's Comet fame. He proposed the idea that the Earth's interior was comprised of different layers, which rotated at different rates. This was later shown to essentially be the cause.

In addition to magnetic declination, Gellibrand also worked on astronomical determinations of longitude as an alternative to using magnetic declination. One such method was called the Lunar Distance Method. In this method, you measure the angular separation between the Moon and a star using a sextant. Because the Moon moves in a known manner, its exact position relative to the stars at any given time is known. By referring to various ephemeris tables, the angle tells you the exact time at some fixed location, usually Greenwich, England. Then you can use another table to compare what stars are on the meridian at that time in Greenwich, while you observe what stars are on your local meridian. The difference between the two (after a lot of calculations) tells you your longitude. One obvious problem with this method is that the Moon is not always visible, especially near New Moon. Once accurate navigational clocks were developed, astronomical determination of longitude went out of favor.

Gellibrand also devoted much time to publishing logarithm and trigonometric tables. After Henry Briggs died, Gellibrand completed Briggs' "Trigonometric Britannica". This was a follow-up to an earlier work in which Briggs computed logarithms of the numbers between 1 and 20,000, and between 90,000 and 100,000. In this new book, he filled in the gap. Gellibrand's primary interest in logarithms was in their application to trigonometry, so he added a preface to the book concerning this subject.

Henry Gellibrand published other works of his own, including "Institution Trigonometrical", in which trigonometry was applied to navigation, and "Epitome of Navigation", which wasn't published until 1698, 62 years after Gellibrand's death.

Henry Gellibrand is not a widely recognized name. However, his contributions to the understanding of Earth's magnetic field and methods used for navigation were invaluable. Anyone who has read the book "Longitude", or saw the miniseries based on that book, knows that the accurate determination of longitude was vitally important and incredibly difficult. It was a long road to developing a reliable method. The contributions of Henry Gellibrand helped to shorten that road.

References:

- Gellibrand Web Page by J J O'Connor and E F Robertson <http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Gellibrand.html>
- Magnetism after Gilbert Web Page <http://www.phy6.org/earthmag/to1820.htm>
- The External Magnetic Field and the Crustal Field Web Page http://www.st-and.ac.uk/~www_sgg/personal/crblink/web/2yrintro/g2p11.html
- Chapter 1: Introduction (c.1600-1750) Web Page <http://www.kirkwood.cc.ia.us/faculty/ryost/chapter1.htm>
- Astronomy 10: Lecture 3 Web Page <http://astron.berkeley.edu/~bmendez/ay10/2000/notes/lec3.html>
- Briggs Web Page <http://www-gap.dcs.st-and.ac.uk/~history/Mathematicians/Briggs.html>
- The Longitude Story by Bill Keir Web Page http://www.astronomy.org.nz/journal/2001/2001-03/longitude_story.htm
- Gilbert Web Page <http://chem.ch.huji.ac.il/~eugeniik/history/gilbert.html>

Sudekum Planetarium

November, 2002

Tuesdays through Fridays

3:15 Santa Snork Saves the Seasons

day after Thanksgiving, Friday, November 29 ONLY

11:30 Santa Snork Saves the Seasons

1:00 WSKY: Radio Station of the Stars

2:30 Santa Snork Saves the Seasons

3:30 WSKY: Radio Station of the Stars

Saturdays

11:30 Santa Snork Saves the Seasons

1:00 Skies Over Nashville

2:30 Santa Snork Saves the Seasons

3:30 WSKY: Radio Station of the Stars

Sundays

1:30 Santa Snork Saves the Seasons

3:30 WSKY: Radio Station of the Stars

December, 2002

closed December 25 and January 1

Tuesdays through Fridays through December 20

3:15 Santa Snork Saves the Seasons

Monday, December 23, 2002 through Tuesday, December 31, 2003 during winter break

11:30 Santa Snork Saves the Seasons

1:00 A Christmas Story

2:30 Santa Snork Saves the Seasons

3:30 A Christmas Story

Saturdays

11:30 Santa Snork Saves the Seasons

1:00 Skies Over Nashville

2:30 Santa Snork Saves the Seasons

3:30 A Christmas Story

Sundays

1:30 Santa Snork Saves the Seasons

3:30 A Christmas Story

HOT FLASH*by Jerry Lappin*

Twentieth century astronomy was marked by the discovery and exploration of massive cosmic bodies and spectacular events. New galaxies were discovered, black holes revealed, the Great Attractor located, extrasolar planets found. Supernovas were explained, colliding galaxies explored, and even black holes were observed in violent collision. All of these advances came about through the building of larger and larger telescopes, both optical and radio, and filling space with multi-billion-dollar satellite instruments which viewed the universe at every wavelength from X-rays to the far infrared. Now, however, at the beginning of the 21st century astronomers standing on the shoulders of those 20th century giants, both human and optical, seem to be peering through microscopes. What is one of the hottest topics in today's astronomical research? Dust, just ordinary dust like that which coats your car, your windows and your lungs in the fair city of Kingsport. It's the stuff that mixed with lint and pet hair forms those cute little dust bunnies under your bed. I'm talking about ground up rock, soot, rust, bits and pieces of organic gunk. To be sure, this cosmic dust may be flavored with a little diamond or sapphire dust but for all I know so is the dust in the corners of my attic.

Those of you who attended Star Fest heard a fascinating talk about very dusty stars and a recent Sky and Telescope featured a long article on the vast quantities of dust being blasted into space by dying stars. To be exposed to so much dust in so short a time shows how important the subject is. However, these discussions seemed to hint that there is some great mystery about dust. The real mystery is why there is anything else left out there. Even the newest home collects dust at an appalling rate; a little drought and your lawn turns to dust. Why is it so unusual that something as old as the universe has gotten pretty dusty? After all, there are no cosmic Merry Maids to keep it clean so the stuff just keeps accumulating. Perhaps it's fortunate that star dust is so plentiful for truly we're the dust bunnies of the universe.

Events and Activities

November 1 - November 30, 2002

- 11/2 Conj. Moon with Mars, Private Star Party, Natchez Trace site.
- 11/4 NEW MOON; Moon at Perigee (Large tides)
- 11/5 ELECTION DAY
- 11/7 BSAS Board of Directors Meeting 7:00 P.M.
- 11/9 Private Star Party - Natchez Trace Site
- 11/11 FIRST QUARTER MOON; Double shadow transit on Jupiter; VETERAN'S DAY
- 11/14 Dyer Observatory Public Night 7:00-9:00 P.M.; Mercury in superior conjunction (Sun occults Mercury)
- 11/16 Moon at apogee
- 11/19 Leonid Meteors Peak
- 11/20 FULL MOON, Penumbral eclipse
- 11/21 BSAS Club meeting, Dyer Observatory 7:30 P.M. spkr. Dr. Powell Hall, "The Poetry of the Pleiades"
- 11/22 Conjunction, Moon and Saturn
- 11/26 Conjunction, Jupiter with Uranus
- 11/27 LAST QUARTER MOON
- 11/28 THANKSGIVING DAY

December 1 - December 31, 2002

- 12/1 Mars & Venus s. of Moon
- 12/4 NEW MOON; total solar eclipse (Indian Ocean)
- 12/5 BSAS Board of Directors Meeting 7:00 P.M.
- 12/6 Venus at gr. brilliancy (mag. -4.7)
- 12/7 Private star party, Natchez Trace site
- 12/8 Neptune n. of Moon
- 12/9 Uranus n. of Moon; Pluto in conj. with Sun
- 12/11 FIRST QUARTER
- 12/13 Geminid meteors
- 12/17 Saturn at opp.
- 12/19 BSAS holiday potluck, 6:30 p. m at Cumberland Science Museum: 8 p. m. speaker, Dr. Schmude
- 12/19 FULL MOON; Saturn s. of Moon.
- 12/21 Winter solstice, 7:14 p. m. CST.
- 12/23 Jupiter s. of Moon
- 12/25 CHRISTMAS DAY
- 12/26 LAST QUARTER
- 12/28 Private Star Party, Natchez Trace site
- 12/29 Mars s. of Moon, occultation
- 12/30 Venus n. of Moon

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