

**The September membership meeting will be held on
Thursday, October 18, 2007 at
7:30 pm at the Adventure Science Center**

William K. Teets will be our October speaker. He is a Clarksville native and graduated with a B.S. in physics from Austin Peay State University in 2004. He is currently pursuing a Ph.D. in Physics with an emphasis in astrophysics at Vanderbilt University. Once he has attained his degree, he hopes to teach astronomy and astrophysics at the college level.

His program for BSAS will be about T Tauri stars. These are young, low mass stars in their final stages of stellar formation that exhibit properties of possessing a remaining accretion disk. They often exhibit violent surface activity. Our Sun experienced this highly active phase in its youth with intense radiation emission and stellar winds dispersing the nebula from which our solar system formed.



Message from the President

In the September Eclipse, I mentioned that in "Lynchburg there are free tours through the Jack Daniels Brewery. A short field trip to the brewery is well worth the time." Yes, this is true, however with the wonderful array of speakers, I do not know of anyone who left our star party to go to the Jack Daniels Brewery. We had six wonderful speakers.

I believe that our TNSP 07 was one of our best. Especially the night skies, which were very clear. The stars were very bright and the Milky Way was exceptional. You could see it across from horizon to horizon. The hot, hot air was gone and in its place was a comfortable temperatures in the sixties and fifties. Only the dew was still there. My dew heater kept the primary corrector from dewing up however everything else was covered with dew.

The number of registrants was down this year compared to other years. We had a total of sixty-eight persons. I believe that with this exceptional star party, that the attendance will be better in 2008. We will have another fine array of speakers, the same facilities and also the same caterer who did such a wonderful job preparing our meals. She has already tentatively agreed to cater for us again next year.

And then all we have to do is to make reservations for similar weather as we had this year.

I appointed a nominating committee, chaired by Donna Hummel, to select candidates for the officers and replacements of Board of Directors for the year 2008. The persons selected by the committee are: President, Terry Reeves; Vice-president, Keith Burneson; Secretary, Bob Rice; and Treasurer, Randy Smith. The new members of the Board of Directors will be Tony Campbell, replacing himself and Theo Wellington, a new candidate. Since Keith Burneson will be Vice-president and is presently a Board of Director, we must select a candidate to take his place. We are very fortunate that Spencer Buckner has agreed to take Keith's place. Each Board Member will serve for three years and are staggered so that the six Board Members expiration dates overlap each other.

Nominations will be taken from the floor at the October 18th Membership Meeting. If you want to nominate someone, you should check with and get the approval of the new candidate before making the nomination. The election of the Officers and Board of Directors will be held at the November Membership Meeting and will start their terms January 1, 2008.

by Bill Griswold,
President

ECLIPSE

BSAS MEMBERS LEARN CPR AND DEFIBRILLATOR

by **Mary O. Boyd**

Six BSAS members spent a recent Sunday afternoon learning the latest life saving techniques under the direction of Dr. Donna Hummell, herself a BSAS member. The American Heart Association program, with an instructional video and plastic head and chest forms, was conducted so that BSAS members could act in any emergency that might arise. This is especially important since many BSAS events are at night and at remote sites where professional emergency assistance might not be easily or quickly available.

The first emphasis was on CPR, which can be used when someone stops breathing, and each participant practiced on the plastic forms. It included mouth to mouth respiration and applied pressure on the chest to help the victim start breathing. The second part of the program involved the use of an AED (automated external defibrillator), which can be used when the victim's heart stops pumping blood. Many businesses, public places, schools, and churches now have these devices which give exact instructions to the person using them to try to re-start a victim's heartbeat.

BSAS purchased a defibrillator several years ago, and it is available at most BSAS programs such as star parties and other astronomy events. Any time it is needed, it can generally be found in Lonnie Puterbaugh's van or other location such as the office at the Tennessee Star Party at Lynchburg, Tennessee.

Those taking the training included Mark Manner, Terry Reeves, Keith Burneson, Joe Boyd, Lonnie Puterbaugh, and Mary Boyd. The group was very grateful to Donna Hummell for preparing for and presenting the training.



Donna Hummell demonstrates technique on a CPR dummy.



Keith Burneson is presented with his CPR certificate after successful completion of the course

**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: \$34.00

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).

Contact president@bsasnashville.com if you have questions. Dues can be sent to:
 BSAS
 P. O. Box 150713
 Nashville, TN 37215-0713

THE ECLIPSE NEWSLETTER

Editor: Pam Thomas
pam.thomas@charter.net

BSAS Officers:

- Bill Griswold, President
 - Terry Reeves, Vice President
 - Bob Rice, Secretary
 - Randy Smith, Treasurer
 - Mark Manner, Immediate Past President
 - Board of Directors
 - Keith Burneson
 - Donna Hummell
 - Steve Wheeler
 - Mike Benson
 - Tony Campbell
 - JanaRuth Ford
 - Kris McCall, Ex Officio
- BSAS website: www.bsasnashville.com**
BSAS Logo by Tony Campbell

HAPPY BIRTHDAY PEEKSKILL METORITE

By: Robin Byrne

This month we celebrate an astronomical event that ended with a bang. The evening of October 9, 1992 found many people out enjoying local high school football games. For some of the spectators, an amazing sight appeared in the sky. From Kentucky to West Virginia to Pennsylvania to New York, a fireball streaked across the sky. With a descent that almost took it back out of our atmosphere, the meteor traveled over 400 miles in a little over 40 seconds. With a greenish glow, it reached a peak brightness comparable to a full moon. At least 16 different people captured the sight with their video recorders.

The videos provided astronomers with an unprecedented opportunity to analyze the descent of a meteor. The first images of the fireball recorded a velocity of almost 33,000 mph at an altitude of 30 miles. Some eyewitnesses reported hearing sounds associated with the meteor. A family near Altoona, Pennsylvania described the sound as a "crackling sound like that of a sparkler." After dropping another 3 miles, the meteor began to break into smaller pieces. Accompanied by a sonic boom, at least 70 separate pieces fell to the Earth. However, due to the large area the fall covered, and the inaccessibility of most of that area, it is unlikely that other pieces will be found.

The video observations also allowed the determination of the original orbit. This is only the fourth meteorite with a known associated orbit. The parent body has an orbit that takes it from 0.886 AU to 2.1 AU from the Sun, placing it near the asteroid belt. When it encountered Earth, it was roughly 40 days after its last close approach to the Sun.

Although the video observations were of major value to astronomers, what makes the meteorite so special has more to do with its landing in Peekskill, NY. Michelle Knapp, a high school senior, was at home when a loud crashing sound shook the windows. When she went outside, she found a hole in the trunk of her red 1980 Chevy Malibu. The original police report cited the event as criminal mischief. When it was discovered that the gas tank had been punctured, the fire department was called in. That was when they found the meteorite in a crater under the car. Police impounded the meteorite as evidence, and scientists from Columbia University were called in.

The meteorite was measured to have a mass of 12.4 Kg and was classified as an H6 chondrite, which is a fairly common meteorite. Later, radioisotope measurements were taken. It was found that the meteorite had been exposed to cosmic rays at two different times. First, for almost 30 million years, it was in the middle of a larger object (about 2 feet across). Then, for 200,000 years, it was about 3 inches under the surface of an object that was 10 - 15 inches across.

When the meteorite first hit, Michelle Knapp was philosophical about her situation. "My car is totaled," she said. "I'm upset but at the same time it's kind of exciting. I bought the car from my grandmother for 100 bucks, so financially I'm not set back too far." Ultimately, she came out way ahead. Although I could not find a final selling price, an article from February 1993 stated that one group of people were willing to pay \$69,000 for the meteorite and car combined.

The car is now owned by the business, R.A. Langheinrich Meteorites. They have taken the car on a world tour, including exhibits in New York City (at the American Museum of Natural History), Paris (at the French Space Agency), Switzerland, Germany and Tokyo. Pieces of the meteorite, because of its fame, are highly sought after and fetch higher than usual prices.

Overall, the Peekskill meteorite fall was a win-win situation for everyone involved. Astronomers had more observational evidence associated with a meteorite fall than had ever been available before, allowing them to determine much more about the meteorite than can usually be determined. Michelle Knapp may have lost a car, but the sale of the car and meteorite more than compensated her for the inconvenience. And collectors have the opportunity to own a piece of a meteorite associated with one of the more spectacular landings known.

Whenever I tell the story of the Peekskill fall to my students, I usually joke that we should put magnets on our cars to try to attract meteorite impacts. However, that could backfire if the meteorite hits while driving. The topic of cosmic impacts on Earth always makes me think of the scene from the "Wizard of Oz" when Glenda warns the Wicked Witch of the West that "... someone may drop a house on you." Maybe we should all cringe and look up over our shoulders from time to time. Who knows what may be headed our way.

References:

The Peekskill Meteorite and Fireball

http://uregina.ca/~astro/mb_5.html

Peekskill Meteorite Car

<http://www.nyrockman.com/peekskill.htm>

Peekskill meteorite

http://www.daviddarling.info/encyclopedia/P/Peekskill_meteorite.html

Meteorite slams parked car in New York City suburb

<http://www.meteoritearticles.com/znp10121992gt.html>

Sky & Telescope; February 1993: "New York's Cosmic Car Conker"

THE TENNESSEE STAR PARTY

Statement of Operations

September 14-16, 2007

INCOME

Dining Fees	\$1317.50
Registration Fees	1241.00
Cabin Fees	859.00
T-Shirt Sales	360.00
Camping Fees	226.00
Snack Bar Sales	135.00
Field Electricity Rentals	<u>57.00</u>
<i>Total Income</i>	<i>\$4195.50</i>

EXPENSES

Camp & Facilities	\$2000.00
Dining Cost	1366.00
T-Shirt Cost	300.00 *
Snack Bar Cost	145.45
PayPal Fees	27.85
Registration Materials	16.49
Printed Checks	<u>10.38</u>
<i>Total Expenses</i>	<i>\$3866.17</i>
<i>Net Gain on Operations</i>	<i>\$329.33</i>

NOTES

* = Estimated @ \$12 per shirt

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Clear skies at TNSP 2007!!

Two of the fabulous images taken by Steve Wheeler at TAG Youth Camp
September 14-15, 2007



M033 - The Triangulum Galaxy
L - 20 x 2 min, RGB - 10 x 2 min

Date: 09/15/2007

Location: TAG Youth Camp, Lynchburg, TN (TNSP 2007)

Mount: Orion Atlas EQ-G

Camera: Meade DSI Pro II

Filters: IDAS LPS Filter, Meade IR-RGB

Imaging OTA: Astronomy Technologies AT102ED

Guiding OTA/Camera: Astronomy Technologies AT66ED/Stellacam II

Software

Camera Control: Meade Autostar Envisage

Guiding: PHD Guiding

M008 - The Lagoon Nebula
L - 20 x 1min, RGB - 10 x 1 min

Date: 09/15/2007

Location: TAG Youth Camp, Lynchburg, TN (TNSP 2007)

Mount: Orion Atlas EQ-G

Camera: Meade DSI Pro II

Filters: IDAS LPS Filter, Meade IR-RGB

Imaging OTA: Astronomy Technologies AT102ED

Guiding OTA/Camera: Astronomy Technologies AT66ED/Stellacam II

Software

Camera Control: Meade Autostar Envisage

Guiding: PHD Guiding

Processing: Maxim DL, Photoshop CS2



**Barnard-Seyfert Astronomical Society
Minutes of a Regular Meeting of the Board of Directors
Held on Thursday, September 6, 2007**

The board of directors of the Barnard-Seyfert Astronomical Society met in regular session at the Cumberland Valley Girl Scout Council Building in Nashville, Tennessee on September 6, 2007. A sign-in sheet was circulated in lieu of a roll call. Board members Mike Benson, Keith Burneson, Tony Campbell, JanaRuth Ford, Bill Griswold, Donna Hummell, Terry Reeves, and Bob Rice were present. Board members Kris McCall, Mark Manner, Randy Smith, and Steve Wheeler were absent. Also attending were BSAS members Joe Boyd and Lonnie Puterbaugh. A quorum being present, President Bill Griswold called the meeting to order at 7:41 P.M.

Webmaster Tony Campbell reported that he was monitoring complaints on the website and suggested that the *Eclipse* newsletter editor provide him with highlights from each upcoming issue. Program Chair JanaRuth Ford announced that the September program would be presented by Joe Boyd on the Naval Observatory and the Barringer Meteor Crater, Drew Gilmore on Cape Kennedy, and Lonnie Puterbaugh on the Cape Kennedy Museum and the Space Walk Hall of Fame. For October, Vanderbilt graduate student William Teets will speak about his research on T Tauri Stars – A Look at Our Sun's Adolescence. For the November meeting, Dr. Spencer Buckner will deliver a program on "How to Pick a Telescope." For the December meeting, *Amateur Astronomy* magazine editor Charlie Warren will speak during our annual holiday potluck dinner. For January, we hope to present a "How to Use a Telescope" session as a follow-up to the November program.

Bill Griswold announced that John Dobson, creator of the "Dobsonian" telescope mount, developer of the Sidewalk Astronomers, and Cosmologist, will speak at Western Kentucky University on October 2nd and suggested that we follow up on an offer to bring him to Nashville to speak. Lonnie Puterbaugh graciously offered to host him on October 3rd. Tony Campbell moved that we invite Mr. Dobson to speak to the BSAS on October 3rd and also invite other area astronomy clubs (CAS, ORION, Von Braun, etc.) with dinner only available to BSAS members. Keith Burneson seconded this motion that was approved by a unanimous voice vote.

Joe Boyd announced that the Dark Sky Committee meeting scheduled for this Tuesday was called off. Mr. Boyd called attention to a recent article in the *Nashville Tennessean* newspaper by columnist Ann Payne pointing out that the Metro Public Works Department had been installing light polluting fixtures. In contrast, the article also called attention to the Korean Veterans Bridge that had recently been equipped with full cutoff lighting. Mr. Boyd cited the H.G. Hills Center in Green Hills for installing non-polluting LED light fixtures and suggested that the BSAS present them with an award for this effort. He also suggested taking a photograph of Dr. Donna Hummell instructing BSAS members in using the club's defibrillator in preparation for TNSP 2007.

Bill Griswold announced that 23 BSAS members had signed up to attend the Tennessee Star Party (TNSP). JanaRuth Ford suggested that the board consider moving the next TNSP to October in order to give college students earlier notice and more time to attend. TNSP Coordinator Keith Burneson handed out projected TNSP cost estimates. Lonnie Puterbaugh suggested that we email area college professors to inform them that late fees would be waived for their students. Mr. Puterbaugh announced that Dr. Spencer Buckner of Austin Peay State University (APSU) would bring a backup projector to the star party in addition to his own and also invite his students to attend. He also commented that we would need to black out the outside lighting in the auditorium for daytime PowerPoint presentations.

Bill Griswold pointed out the TNSP would have a separate heated and air conditioned cabin for women. Lonnie Puterbaugh moved that TNSP late fees be dropped for attending students. Mike Benson seconded this motion that was approved by a unanimous voice vote. Upon inquiring, Bob Rice was told that Karen Puterbaugh and Terry Reeves would assist with the TNSP snack bar. Mike Benson read a thank you card from second place Science Fair winner Taffy O'Neal.

Lonnie Puterbaugh suggested that the board approve these upcoming outreach events as a group to make certain that insurance coverage was in effect: September 7th @ Middle Tennessee State University (MTSU); September 22nd @ Hobgood Elementary School; September 29 @ Green Hills Theater; and finally October 5th, November 2nd, and December 7th @ MTSU. Bob Rice so moved and JanaRuth Ford seconded this motion that was approved by a unanimous voice vote.

Bill Griswold asked Donna Hummell to head a committee to recommend officer and director candidates for the upcoming annual election at the November meeting. Mr. Griswold noted that board members Mike Benson's and Tony Campbell's terms would expire at the end of December. In order to provide meals at the TNSP for walk-ons, the board briefly discussed and approved adding 15 additional meals for both Saturday lunch and dinner.

There being no further business to discuss, President Griswold declared the meeting adjourned at 9:26 P.M.

Respectfully submitted,
Bob Rice

**Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held On Thursday, September 20, 2007**

President Bill Griswold called the meeting to order at 7:41 P.M. in the Adventure Science Center (ASC). Mr. Griswold asked for any corrections to the minutes of the previous meeting held on August 16, 2007 and, there being none, then asked for a motion to accept them as published in the September 2007 edition of the *Eclipse* newsletter. A member so moved, followed by a second, and the minutes were approved by a unanimous voice vote. Mr. Griswold then welcomed new members and guests.

Tennessee Star Party (TNSP) Treasurer Bob Rice reported that, although all of the expenses were not in yet, it appeared that the just completed star party made approximately \$200 profit. Mr. Rice also commented that the TNSP Steering Committee would evaluate and consider the implications of the lower turnout (67 people) this year.

Star Party Coordinator Steve Wheeler announced these upcoming private star parties: October 13 at Natchez Trace Parkway mile marker 433; November 10 at the Natchez Trace Water Valley Overlook site; and December 8 at Natchez Trace Parkway mile marker 433. Kris McCall also reminded the audience about the public winter star party on December 15 at Warner Park. Treasurer Randy Smith announced that he would discuss arrangements for purchasing copies of *The Observers Handbook* at the next meeting.

Bill Griswold introduced Joe Boyd who spoke about his trip three years ago to the U.S. Naval Observatory in Washington, D.C. Mr. Boyd emphasized that, although replaced to some extent today by global positioning signals from orbiting satellites, the Observatory's broadcast of highly accurate time signals was still important for calculating longitude. He also pointed out the leading role the Observatory played in measuring double stars and maintaining a catalog of this data for use by the astronomical community. Mr. Boyd next described a past trip to the Barringer Meteor Crater some 35 miles east of Flagstaff, Arizona. Noting that the crater was created approximately 50,000 years ago when a giant meteor 150 feet in diameter hit the Earth at over 40,000 miles per hour, he pointed out that the impact left a hole over a mile across and scattered iron pebbles up to 50 miles away.

Next Drew Gilmore described his trip to the Kennedy Space Center in 2004. Highlights of his presentation included pictures of the vehicle assembly building where the space shuttles are put together. At some 525 feet high, this structure is the tallest single story building in the world. Mr. Gilmore also described the shuttle's large liquid oxygen tanks and showed images of the shuttle crawler road composed of Alabama river rock. Lastly, he showed close up images of the external tiles used to protect the shuttle from the tremendous heat generated when it reenters the earth's atmosphere.

Lonnie Puterbaugh then talked about the Kennedy Space Center from the tourist's point of view. Mr. Puterbaugh emphasized the Visitors Center, showed a bird's eye view of the complex, and recommended getting on the tour busses early in the morning. He also described the Astronauts Hall of Fame and the free Space Walk Museum in nearby Titusville that is staffed by volunteers who are all retired NASA engineers.

Lonnie Puterbaugh reminded the audience that BSAS members will have a display at the Green Hills Theater for the September 29 showing of the film "In the Shadow of the Moon" and invited others to participate. Mr. Puterbaugh also invited BSAS members to a dinner with John Dobson on October 3rd at 5:30 P.M. at the Piccadilly Cafeteria to be followed by talk by Mr. Dobson at the ASC at 7:30 P.M. He also reminded the audience about the Sally Ride Festival in Huntsville on October 6th and the Volunteer State Star Party sponsored by the Von Braun Astronomical Society on October 12-14.

There being no further business to discuss, President Griswold declared the meeting adjourned at 9:59 P.M.

Respectfully submitted,
Bob Rice, Secretary

ACTIVITIES and EVENTS*October 1—31, 2007*

10/2 Mars 5° S of Moon
10/3 LAST QUARTER
10/4 BSAS Board of Directors mtg., 7:30 p.m. at Girl Scout Office
10/7 Venus 3° S of Moon, conj. of Saturn & Moon
10/11 NEW MOON
10/13 Private star party 8:30 p.m. Natchez Trace, mile marker 435
10/15 Venus 3° S of Saturn
10/16 Jupiter 5° N of Moon
10/18 BSAS Membership mtg. 7:30 p.m. at ASC
10/19 FIRST QUARTER
10/21 Orionid meteors peak, conj. of Neptune & Moon
10/26 FULL MOON
10/30 Mars 3° S of Moon

November 1—30, 2007

11/1 BSAS Board of Directors mtg., 7:30 p.m. at Girl Scout Office, LAST QUARTER
11/4 Daylight Savings Time ends, Saturn 1.8° N of Moon
11/5 Venus 3° N of Moon
11/8 Mercury 7° N of Moon
11/9 NEW MOON
11/10 Private star party 8:30 p.m. Natchez Trace, mile marker 412
11/15 BSAS Membership mtg. 7:30 p.m. at ASC
11/17 FIRST QUARTER, conj. of Neptune & Moon
11/18 Leonid meteors peak
11/24 FULL MOON
11/27 Mars 1.7° S of Moon

*All times listed are Central Time

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