



ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

Celebrating our 77th Year

September 2005

**The Membership meeting will be held on September 15, 2005
at the Adventure Science Center at 7:30 pm.**

The speaker will be Mr. Mark Manner, BSAS member

Mark Manner is a Nashville attorney (www.h3gm.com). Before being lured to the dark side, he began his educational career as an organic chemistry major. His interest in astronomy started at age 11 when his father showed him the moon in a surveyor's transit. While in law school in Memphis, he built a primitive roll off roof observatory equipped with a seriously undermounted 10" F5.6 Newtonian. He sold his Newt when he left Memphis, and bought a 4" Mak which was his sole telescopic companion for the next 25 years, accompanying him on three total solar eclipse trips. In late 2003 he moved west of Nashville to a relatively dark spot (near Spot, TN), and decided "to get a slightly larger telescope." This quickly got out of hand, and by early 2005 he had not only built a new roll off roof observatory, but expanded it as well. He started imaging in earnest with a cooled CCD camera in early 2005. His observatory and images are accessible at www.spotastro.com. Mark will share his experiences with equipment selection, image acquisition and processing.

FROM THE PRESIDENT

We often think that "all the great discoveries have been made" when it comes to science in general and the ancient field of astronomy in particular. There was even a recent best-seller entitled "The End of Science: Facing the Limits of Knowledge in the Twilight of the Scientific Age." At best, we imagine that future discoveries can only be made with the largest, most advanced telescopes, such as the twin Keck 'scopes in Hawaii or the orbiting Hubble Space Telescope.

I've often thought that attitude is bunk—that important discoveries remain to be made and can be made with much more modest instruments, if only we will work hard enough and devote enough time to the task. So I was very pleased to learn a few weeks ago that astronomers using the venerable 48 inch imaging telescope at Palomar Observatory in California had discovered 2003 UB313, arguably our solar system's 10th planet and at 2,000 or more miles in diameter, the largest object found orbiting our sun since Neptune's discovery in 1846.

The really interesting thing about 2003 UB313 (hopefully astronomers will soon come up with a snappier name) is that, while dim at about 19th magnitude and distant at nearly 100 times Earth's distance from the sun, it is not beyond the reach of CCD cameras attached to large amateur telescopes. No doubt, as Sky & Telescope magazine commented, "Its high inclination is the only reason it wasn't discovered years ago; no one was looking for planets so far from the plane of the solar system."

In other words: *2003 UB313 could have been found by an advanced amateur astronomer!* It's noteworthy that German amateurs managed to confirm 2003 UB313's location within one hour of its formal announcement. And if the distant Kuiper Belt harbors one object the size of 2003 UB313, there are probably others out there just waiting to be discovered by amateurs patient enough to mount a sustained search.

I hope this discovery will encourage all of us to keep our eyes open as we sweep the heavens with our telescopes and astro-cameras. Amateurs can and do make significant discoveries (just ask Loren Ball in Huntsville about his 140+ asteroid discoveries, or Jay McNeil in Kentucky about his finding of McNeil's Nebula). And remember: the club's loaner program has sophisticated equipment—like two equatorial tracking tables and even a photometer—available for free that can help motivated BSAS members conduct useful scientific research.

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Happy Birthday John Young

by Robin Byrne

This month we celebrate the achievements of one of the most experienced astronauts to ever work for NASA. John Watts Young was born September 24, 1930 in San Francisco, California. Shortly after his birth, his family moved to Orlando, Florida, where Young grew up. After graduating from Orlando High School, Young attended the Georgia Institute of Technology (aka Georgia Tech). He majored in aeronautical engineering, and graduated with a Bachelors of Science Degree with highest honors in 1952.

After graduation, Young joined the Navy. His Navy career included serving on the destroyer USS Laws during the Korean War. It was in the Navy that Young began flying. After flight training, he flew both Cougars and Crusaders. In 1959, Young successfully completed the test pilot training program. He was then assigned to the Naval Air Test Center. It was in this capacity that he participated in Project High Jump, in which he set world records in 1962 for the time to climb to an altitude of 3000 meters, and a record for time to climb to an altitude of 25,000 meters.

The year 1962 would see another milestone in Young's career. In September of this year he was accepted into the astronaut program as one of the "New Nine", the second group of astronauts recruited by NASA. Over the course of the next 21 years, Young would become the first astronaut to fly six space missions. His first flight was March 23, 1965 as the Pilot of the first manned Gemini flight, Gemini 3, with Gus Grissom as Commander of the flight. During the flight, Young became the first person to operate a computer in space, and also the first to smuggle food on board (a corned beef sandwich). His second flight was as Commander of Gemini 10, with Mike Collins as Pilot. From July 18 to 21, 1966, Young completed two rendezvous with Agena rockets. During one rendezvous, Young maintained formation while Collins performed a space walk to retrieve an experiment from the rocket.

Young's third space flight was his first Apollo mission, Apollo 10. On board with Young were Tom Stafford and Gene Cernan. This mission tested the Lunar Module in lunar orbit. While Stafford and Cernan flew the module to within 10 miles of the lunar surface, Young, as Command Module Pilot, remained in the Command Module in preparation for the successful first docking in lunar orbit. Young would return to the Moon April 16 to 27, 1972 as Commander of Apollo 16. For three days, Young and Charlie Duke explored the highlands of the Moon in the region of crater Descartes, collecting over 200 pounds of rock samples, and also setting a lunar rover speed record in the process.

After the completion of Apollo, NASA focused its efforts on the Space Shuttle. In 1973, Young became the Chief of the Space Shuttle Branch of the Astronaut Office, providing support for the shuttle's design and development. A year later, he replaced Deke Slayton as Chief of the Astronaut Office, in charge of all astronaut activities and assignments.

With four space flights spanning both Gemini and Apollo, Young became one of the senior members of the astronaut corps. Therefore, it was not surprising that he would be asked to Command the first flight of the Space Shuttle. From April 12 to 14, 1981, Young and Bob Crippen flew the shuttle Columbia to test out this new space vehicle. This was the first time a space vehicle was first tested in space with people aboard, and the first time a space vehicle landed on a runway. Young's last flight was also aboard Columbia, as Commander of STS-9 from November 28 to December 8, 1983, which was the first Spacelab mission. The 6-man crew performed over 70 experiments in atmospheric physics, space plasma physics, astronomy, solar physics, materials processing, life sciences, and Earth observations.

From 1987 to 1996, Young served as Special Assistant to the Director of Johnson Space Center (JSC) for Engineering, Operations, and Safety, which dealt with all issues concerning shuttle safety, engineering, operations, and upgrades. He also worked on issues related to future Moon and Mars missions. From 1996 to 2004, Young served as Associate Director (Technical), JSC. In this capacity, he was responsible for technical, operational and safety oversight of all JSC programs and activities. Young retired from NASA December 31, 2004, but has planned to continue to be a vocal supporter of future missions to the Moon and Mars.

For 42 years, John Young was a major component of the US space program, both as an astronaut and as an administrator. During that time, NASA went through many major accomplishments and set backs. However, through it all, John Young never lost sight of the purpose of the space program: exploration. This month, remember one of the first explorers by wishing a happy birthday to John Young.

References: Astronaut Bio: John W. Young 5/2005 <http://www.jsc.nasa.gov/Bios/htmlbios/young.html>

Astronaut John W. Young - A Short Biography by Lindsey McFadyen <http://www.johnwyong.com/bio/lmbio.htm>

Barnard-Seyfert Astronomical Society
Minutes of a Regular Meeting of the Board of Directors
Held On Thursday, August 4, 2005

The board of directors of the Barnard-Seyfert Astronomical Society met in regular session at the Jefferson Square Club House in Nashville, Tennessee on August 4, 2005. A sign-in sheet was circulated in lieu of a roll call. President John Harrington declared a quorum to be present and called the meeting to order at 7:37 P.M. Board members Joe Boyd, Tony Campbell, JanaRuth Ford, Bill Griswold, John Harrington, Kris McCall, Bob Rice, Randy Smith, Pam Thomas, and Gary Wilkerson were present. Board member Mike Benson was absent. In addition to members of the board, BSAS Equipment Committee member Keith Burneson and Equipment Committee Chair Lonnie Puterbaugh were also present. The minutes of the previous board meeting held on July 7, 2005 were approved without objection as published in the August 2005 edition of the *Eclipse* newsletter.

John Harrington announced his resignation as BSAS President due to a workplace promotion that will require his moving to Indianapolis, Indiana within the next four to six weeks. Mr. Harrington expressed his sincere regrets, but noted that an effective succession of leadership was already in place with Vice-President Pam Thomas and the other BSAS officers, board members, and committee chairs.

BSAS Treasurer Randy Smith reported that the Society's checking account balance was \$5,980.29 at July 31, 2005. Mr. Smith also asked committee members to submit invoices for expense reimbursement. Long Range Planning Committee Chair Joe Boyd announced that they would next meet on Tuesday evening, August 9th. John Harrington expressed his concern that the board's recent effort to contact past-due members had produced very few renewals.

John Harrington reported that the BSAS descriptive brochure has been updated with rewritten text and new photographs. He asked for and received the board's unanimous approval to place BSAS member Mark Manner's stunning image of M51 on the cover. Bill Griswold stated that he would merge additional material from Kris McCall.

Equipment Committee Chair Lonnie Puterbaugh announced that they would meet again next week and hoped to have the BSAS traveling display completed by September 8th. Mr. Puterbaugh presented the board with a resolution adopted at the Equipment Committee's last meeting requesting that the BSAS acquire an Epinephrine Kit for treating bee stings and an Automated External Defibrillator (AED) for treating cardiac arrest. These resources, recommended by committee member Donna Hummel, M.D., would be available for potential emergencies that might occur during the TNSP or other sponsored star parties and events. Mr. Puterbaugh noted that members would have to acquire American Red Cross certification to use the AED. Kris McCall suggested that an AED might be rented instead of being purchased. After some discussion, the board authorized the Equipment Committee to first research brands, costs, and acquisition methods. Joe Boyd then seconded the committee's resolution to acquire both items with the stipulation that the total expenditure could not exceed \$1,560.00 without further board approval. Additional discussion followed during which Keith Burneson suggested that the BSAS might investigate using its tax-free corporate card at Sam's Warehouse for these purchases. Webmaster Tony Campbell commented that an announcement could be placed on the BSAS website advertising that proceeds from the TNSP would be used to fund the AED. The board then passed the amended resolution by a unanimous voice vote.

John Harrington reminded the board about the private star party scheduled for Saturday night, August 6th at the 433.5 mile marker site off the Natchez Trace Parkway.

TNSP Treasurer Bob Rice reported that the star party had five pre-registrations with a total income of \$370.00, total expenses of \$110.28, and a bank balance of \$459.72. John Harrington announced that a TNSP t-shirt design depicting cows and a flying saucer had been selected. Bill Griswold displayed a directional sign prototype that he had designed for the TNSP. These sturdy wooden signs complete with eye-catching colors and wording will be reusable for future TNSPs. Mr. Griswold asked for volunteers to help assemble the signs. John Harrington suggested sending a mass emailing about the TNSP to last year's attendees; he stated that he would email a draft to the board. Mr. Harrington announced that one responder to last year's questionnaire had suggested setting up a swap table at TNSP 2005. Mr. Harrington also commented that we would probably need three porta-potties on the observing field this year. At Mr. Harrington's suggestion, Webmaster Tony Campbell announced that he would set up a prominent banner on the BSAS webpage containing a daily "countdown to TNSP" and a link to the registration form. John Harrington and Tony Campbell agreed to set up a conference call with Ann and Pepe Perron, the proprietors of Camp Nakanawa, to inquire about using the charcoal factory or other features as handy landmarks

**Barnard-Seyfert Astronomical Society
Minutes of the Monthly Membership Meeting
Held on Thursday, August 18, 2005**

Vice-President Pam Thomas called the meeting to order at 7:35 P.M. in the Adventure Science Center and welcomed new members and visitors. The minutes of the previous membership meeting held on July 21, 2005 were approved without exception as published in the August 2005 issue of the *Eclipse* newsletter.

Program Committee Chair JanaRuth Ford introduced Mitzi Adams, a solar astronomer for NASA's Marshall Space Flight Center in Huntsville, Alabama, who delivered a program on the sun and its behavior. But first, by using orbital diagrams, Ms. Adams dispelled the current web-based myth that Mars will soon be as large as the moon and at its closest ever approach to the Earth. She then invited the audience to visit NASA's website at science.nasa.gov/ for a more detailed explanation. After giving a brief history of solar observation, Ms. Adams described her work as a "solar dermatologist" and gave a brief overview of the sun's structure. She next recounted her use of the Solar Ultraviolet Magnetometer Instrument (SUMI) to study sunspots in an attempt to predict solar flares and coronal mass ejections. Ms. Adams graciously answered questions from the audience following her presentation.

Pam Thomas recalled the meeting to order at 8:44 P.M. Treasurer Randy Smith reported that the BSAS' bank balance was \$5,931.79. Mr. Smith also invited attendees to sign up to purchase copies of the 2006 Kalmbach Astronomy Calendar and the RASC 2006 Observers Handbook. Dark Sky Committee Chair Powell Hall announced that this committee would next meet on Tuesday, September 6th and invited anyone who was interested to attend.

Equipment Committee Chair Lonnie Puterbaugh announced that the Society's 8-inch and two 6-inch Dobsonian scopes were available for loan to members. Long Range Planning Committee Chair Joe Boyd handed out questionnaires regarding potential BSAS goals and objectives and asked members to complete and return these at the conclusion of the meeting. Mr. Boyd pointed out that the results from these questionnaires would influence the Society's direction for the next several years. Joe Boyd reported that, despite earlier threatening clouds, 153 people attended the August 12th public star party at Warner Park to look through the four BSAS-supplied telescopes. Mr. Boyd related Warner Park Naturalist Heather Gallagher's comment that this had been one of the most successful of our recent joint star parties.

Pam Thomas reminded the audience about these upcoming events:

- September 3: BSAS Private star party at mile 433.5 loop parking lot on Natchez Trace
- September 8: Astronomy 101 presentations/dinner/star party at Warner Park Nature Center

Chuck Schlemm announced that both the Opry Mills Mall and IMAX Theater management were enthusiastic about the BSAS participating in the September 23rd premier of the "Magnificent Desolation" movie about the Apollo missions to the moon. The BSAS' participation would include providing a star party outside the theater and exhibits in the mall. Mr. Schlemm suggested that this might be rescheduled from September 23rd to a later date to permit a more favorable view of the moon. He also asked BSAS member and attorney Joe Boyd to review the contract with the mall. Mr. Schlemm suggested that a private advance showing of the film might be made available to BSAS members. Kris McCall suggested that exhibits might remain in the theater lobby during the entire showing of the film.

Pam Thomas reminded the audience about the upcoming Tennessee Star Party (TNSP) scheduled for October 7-9 at Camp Nakanawa and asked for volunteers to assist with registration, signs, the snack bar, and cleanup. Ms. Thomas invited the audience to pre-register and TNSP Treasure Bob Rice announced that checks could be made payable to either TNSP 2005 or the BSAS. Ms. Thomas complemented Bill Griswold on the reusable signs he had designed for the TNSP. Mr. Griswold announced that he needed help in painting and assembling the remaining signs. Pam Thomas announced that this year she hoped to have a "snack saloon" located near the TNSP observing field. Bill Griswold announced that one copy of the *Grand Tour* book was available for \$12.57; he also asked attendees to turn in their nametags at the conclusion of the meeting.

There being no further business to discuss, Vice-President Thomas declared the meeting adjourned at 9:02 P.M.

Respectfully submitted,
Bob Rice, Secretary

From the President, continued from Page 1

Please make it a priority to attend the BSAS' next stargazing activities:

- A private star party scheduled for Saturday, September 3rd at 8:00PM at the loop parking lot located at approximately mile 433.5 of the Natchez Trace, AND
- A combined astronomy presentation/potluck dinner/star party scheduled for Thursday, September 8th at 5:30PM at the Warner Park Nature Center.

Remember, the cloudy, cold weather will be on us all too soon, so let's enjoy some comfortable stargazing together while we can!

Board of Directors, continued from Page 3

for getting to the TNSP site. They will also ask about getting a list of area campgrounds that could be used by early-arriving TNSP campers. Lonnie Puterbaugh suggested that the BSAS will have to consider other locations to expand future TNSPs to three days.

John Harrington announced that the Astronomy 101 basic instruction presentation would be held at the Warner Park Nature Center on September 8 at 6:00 P.M. Kris McCall announced that a new IMAX movie about the Apollo lunar landings called "Magnificent Desolation: Walking on the Moon" would be opening at the Opry Mills theater on September 23rd. Ms. McCall suggested that the BSAS might want to participate on opening night by setting up telescopes and informational displays.

John Harrington reminded the board about the upcoming private star party scheduled for October 29th. Mr. Harrington suggested repeating the blind auction book sale that was so successful at last year's holiday party and perhaps adding an equipment swap table this December. Bob Rice announced that Oceanside Photo and Telescope had offered a discount on purchased equipment to BSAS members who supplied a pre-established club ID number.

Pam Thomas announced that her husband had established a BSAS SETI Team to allow the networking of potential extraterrestrial data on cooperating member's home computers. Lonnie Puterbaugh suggested that, although intended for an altruistic purpose, the constant infusion of data and resulting head sweeps from this arrangement could wear out participant's hard drives. Program Committee Chair JanaRuth Ford announced that Dr. Bill Keel would speak on relativity at the October membership meeting; this will coincide with the release of his new book *The Sky at Einstein's Feet* that month.

There being no further business to discuss, President Harrington declared the meeting adjourned at 9:18 P.M.

Respectfully submitted,
Bob Rice
Secretary

**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

Board of Directors

Mike Benson
Tony Campbell
JanaRuth Ford
Bill Griswold
Kris McCall
Gary Wilkerson

BSAS website: www.bsasnashville.com
BSAS information line: 615 252-4091

BSAS Logo by Tony Campbell

Activities and Events

September 1 — 30, 2005

- 9/1 BSAS Board of Directors mtg., 7:30 p.m.
Uranus at opposition
- 9/2 NEW MOON; Venus 1.4° S of Jupiter (39° E)
- 9/3 Private star party (Natchez Trace Mile 433.5 parking lot)
- 9/5 Venus 1.8° N of Spica (39° E)
- 9/6 Jupiter 1.8° N of Moon
- 9/6 Dark Sky Committee meeting, 7:30, call Powell Hall,
872-0162
- 9/7 Spica 1.3° S of Moon
Venus 0.6° N of Moon
- 9/10 Antares 0.2° S of Moon
- 9/11 FIRST QUARTER
- 9/15 BSAS monthly mtg., 7:30 p.m., at Adventure Science
Center
- 9/16 Uranus 2° N of Moon
Saturn 1.2° S of Beehive (M44) (46° W)
- 9/17 FULL MOON (the Harvest Moon)
- 9/22 Moon 0.3° S of Pleiades (M45)
Equinox (1723 hours)
- 9/25 LAST QUARTER

October 1 — 31, 2005

- 10/3 NEW MOON, annular solar eclipse
- 10/4 Jupiter 2° N of Moon
- 10/6 BSAS Board of Directors mtg., 7:30 p.m.
- 10/7 Venus 1.4° N of Moon; Antares 0.2° S of Moon
- 10/7-9 TNSP 2005 (2005 Tennessee Star Party) Camp
Nakanawa, near Crossville
- 10/10 FIRST QUARTER
- 10/16 Venus 1.6° N of Antares (46° E)
- 10/17 FULL MOON, partial lunar eclipse
- 10/19 Moon 0.3° S of Pleiades (M45)
- 10/20 BSAS monthly mtg., 7:30 p.m., at Adventure Science
Center
- 10/24 LAST QUARTER
- 10/29 Mars closest approach
- 10/30 Daylight Saving Time ends
- 10/31 Spica 1.2° S of Moon, occultation

Note: all dates & hours according to Central Time

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