

Bays Mountain Astronomy Club

☞ *Next Meeting: Nov. 1* ☞

REFLECTIONS

October's meeting was focused on the clean up of the observatories and preparation for our annual StarFest. After the clean up, we had a short viewing session. So far, this year has not been one of the better years for viewing the night sky. The weather is the one thing that we cannot control. I, for one, still remain positive that clear nights are ahead so that we can get some good nights in before the end of the year. Of course, only time will write the results of the number of viewing nights we will have.

Bays Mountain Astronomy Club's 30th StarFest has come and gone. I have written many times how much I look forward to the weekend each year. Each year I write how much I personally learned and how much fun I had. This year's event is no exception to that feeling. With the exception of the weather preventing any viewing sessions, I think StarFest was very much a success. Over the next few weeks, we will be looking at the details and making the notes to start planning for next year's event. I hope you were able to attend and be a part of the wonderful sessions and the interaction between the other



BY WILLIAM TROXEL

StarFesters. I can't forget to tell you that all the speakers were very interesting and engaged the attendees. If there are any BMAC'ers who have never attended or still unsure if they should sign up, take my word, this annual event is worth every penny.

I wrote earlier that the weather has not been on our side this year. Because of that, I haven't been able to record any of my viewing notes as I had hoped.

I wanted to talk about some upcoming events for the Club. The first one is the November meeting. I have invited one of the Kingsport scout troops up for November's meeting and the Saturday StarWatch after the meeting night. The young scouts will be getting their astronomy merit badge observing requirement. I will post the requirements on bmastro. I am still hoping that 3 more members will agree to help one or both nights. I hope that this will be the start of a program that we could get the word out to the area scout troops and any of the scouts that are working on this merit badge could come up and we could help these young people complete this project.

Calendar

Special Events

Jan. ? Annual Dinner. Date, time, and place TBA.

StarWatch

Nov. 2 7 p.m.

Nov. 9, 16, 23, 30 6 p.m.

BMACers are always welcome to help with this nighttime viewing program for the public. Please show up about 30 min. prior to help set up.

BMAC Meetings

7 p.m., Discovery Theater

Nov. 1 "The Death of the Earth" by Dr. Don Luttermoser, ETSU Physics & Astronomy Department; Constellation Quest – Terry Alford; Lepus the hare.

Dec. 6 Topic and speaker TBA.

January's meeting is the annual club dinner. We need to get the location set. I hope that you will all consider places that you would like the club to consider. I have received a request to consider "Jack's City Grill" in Johnson City, TN. Any other places you would like us to consider please bring the name with to the meeting in November. If you are not able to attend the Nov. meeting, please e-mail me a possible restaurant name so that it can be put on the list.

November's meeting will feature Dr. Don Luttermoser from the ETSU Astronomy & Physics Department. His topic will be "The Death of the Earth." November's constellation quest will be led by BMAC's Terry Alford. Terry will be sharing the constellation Lepus "the hare."

STAR STUFF

BY TERRY ALFORD

What's going on in the Solar System this November? Well, it is shaping up to be an interesting month and hopefully some real excitement at the end of November.

The Moon is New on November 3rd and Full on the 17th. A waning crescent Moon occults the star Spica around 11:30 CST on the 29th. This is a Friday but if you have the time and the optics and have never seen the Moon occult a star this is your opportunity. The Moon will be about 45° West of the Sun so this trick will not be easy. Scan the sky with your binoculars until you locate the Moon. Then zero in with your scope. Do this before 11:30 of course. Tip: try to get in the shadow of a building to aid in contrast.

Mercury goes through inferior conjunction on November 1st and thus too close to the Sun to view with the unaided eye until around the 9th. It will get higher and brighter each morning until it reaches -0.7 magnitude near the end of the month. This is our best morning apparition of the elusive planet this year.

Have you noticed how far South Venus is during it's current evening visitations? It also doesn't rise very far above the horizon, topping out around only 20° . Still, it certainly does bear telescopic viewing as it grows and shrinks at the same time. How can this be? The angular diameter from pole to pole of our "Sister Planet" grows as it races around the Sun. But it's crescent is also waning, or growing narrower. Venus' magnitude goes from -4.5 to -4.8 so it will be very noticeable in the SW sky. Try to spot Venus in the late afternoon on November the 6th

when it will be a little below and to the East of a thin, crescent Moon.

Mars is starting to get more interesting, too. It rises in the morning sky around 2:30 at the start of the month and around 1 a.m. At the end of the month. The disk is still small at 4.9 to 5.8 " wide and it will brighten to $+1.2$ mag by the month's end.

Jupiter resides in Gemini this month. It rises around 10 p.m. At the start of November and by the end of the month it rises at 7 p.m. What?? Oh, it is that pesky Daylight Saving Time thingy again. By this time it will have brightened to -2.6 magnitude and it's disk will be 45 " wide. This will be a great time to use that new Mars/Jupiter filter you got at StarFest.

Saturn is invisible behind the Sun until late in the month and then will only be barely visible in the pre-dawn sky. Saturn does have a nice conjunction with Mercury on the morning of November 26th. They will be separated by only $.3^\circ$ so both planets will be in the same field of view with a low to moderately powered eyepiece in you telescope.

Neptune and Uranus are high in the sky as November evenings darken. Neptune is in Aquarius and Uranus is in Pisces. Both planets are very close to the ecliptic. Scan these constellations with a low power eyepiece and look for a blueish or greenish tinted "star" that doesn't twinkle. Crank up the power and if you see a disk then voila! You have "discovered" two new planets!

Now for something that may be exciting... or not. Comet ISON will rapidly move across the sky from Leo to Virgo to Libra and finally to Scorpius during this month. It will

be a morning object and hopefully bright... who knows? What we do know is that the comet will reach perihelion (the point closest to the Sun) on November 28. It will pass less than one solar diameter from the Sun's "surface." Will it break up before perihelion? Certainly something will happen. Hopefully it will survive intact until after Thanksgiving Day and we will get treated by a big, bright comet in the morning sky.

[Ed.: Our current planetarium show, "Comets & Discovery" not only highlights all about comets and how they are found, but also focuses on Comet ISON (C/2012 S1). At perihelion, the comet may be too close to the sun to see anything. But, don't let that discourage you. We recommend that you start looking at the comet every morning starting about a week before perihelion to at least a week after. Prior to perihelion, the gas and dust tails will be close together and possibly nice. The comet will probably be at binocular level. After perihelion, the tails will be separating. But at perihelion, the comet's surface will be boiling away, hopefully creating an impressive tail. Be aware, every comet responds differently each time it passes the sun. This comet has the potential to be very nice, but it also has the potential to be only telescopic. It is important to never hype an event like this. There is also the possibility that the comet could flare up and be OK one morning and great the next morning, thus the need to continually observe each morning. Get out your binoculars and camera and find a low, ESE sky in the morning!]

HAPPY BIRTHDAY ALAN B. SHEPARD

BY ROBIN BYRNE

This month we celebrate the life of an American Hero. Alan B. Shepard, Jr. was born November 18, 1923 in Derry, New Hampshire, where he spent his entire childhood. After graduating from High School, Shepard entered the U.S. Naval Academy where he received his Bachelors Degree in 1944. A year later he married Louise Brewer.

Shepard's first assignment in the Navy was during World War II. He was sent to the destroyer USS Cogswell, which was stationed in the Pacific Ocean. After the war, Shepard began flight training and received his wings in 1947. This led to assignments on a variety of aircraft carriers. Shepard's drive to be the best ultimately led to enrollment in the United States Naval Test Pilot School, from which he graduated in 1951. This led to a series of test flights, including measuring light in high-altitude experiments, measuring air masses over land, testing in-flight refueling techniques, and analyzing the first angled deck on an aircraft carrier. At the end of two tours of duty, Shepard spent five months as an instructor in the test pilot school at Patuxent River, Maryland. Shepard then enrolled in the Naval War College in Rhode Island, where he received a Masters Degree. This led to a position as the Aircraft Readiness

Officer for the Commander-in-Chief of the Atlantic Fleet.

In 1959, the newly-established National Aeronautics and Space Agency (NASA) sent out invitations to 110 test pilots to go through a series of tests to become America's



first astronauts. Seven men were chosen, including Alan Shepard. After almost three years of tests and training, America was ready to send our first man into space, and that man would be Alan Shepard. Originally scheduled for October of 1960, delays kept pushing it back. While all of the delays took place, the Soviet Union beat us into space

on April 12, 1961, sending Yuri Gagarin into orbit for 108 minutes. Only 23 days later, on May 5, Alan Shepard's flight was finally set to launch.

Shepard's flight was to be a sub-orbital trip that would take him up to an altitude of 116 miles and back down over the course of about 15 minutes. Since the flight was so short, no provisions had been made for the astronaut to be able to relieve himself. The flight planners hadn't considered delays on the ground. Four hours of delays, with Shepard in the capsule, ultimately resulted with him having to relieve his bladder in his suit. Fortunately, the cooling system helped dry him out. As the mission continued to be delayed, Shepard reached his limit, saying "Why don't you fix your little problem and light this candle?" The success of sending the first American into space made Alan Shepard an instant hero for the entire nation. After the Mercury Program ended, next up was Gemini. Naturally, Alan Shepard was chosen to fly the first Gemini flight. Sadly, in 1964, Shepard was plagued with uncontrolled dizziness, and was diagnosed with Meniere's disease, which involves a build-up of fluid in the inner ear.

(Continued on page 4)

MISCELLANEOUS

Happy Birthday**by Robin Byrne***(continued from page 3)*

Shepard was grounded. He was not the first of the Mercury astronauts to be grounded due to health issues. Deke Slayton had not been allowed to fly at all due to an irregular heartbeat. Slayton had been made head of the Astronaut Office. Now Shepard would join him.

Fortunately, Shepard later heard about a surgical procedure to correct Meniere's disease, which was successful. He returned to flight status in 1969, and was originally assigned to command the Apollo 13 flight, with Edgar Mitchell as lunar module pilot and Stuart Roosa as command module pilot. However, it was decided that he needed more time to train, so the crews of Apollo 13 and 14 were swapped. On January 31, 1971 the crew of Apollo 14 took off for the Moon. Alan Shepard was 47 years old, and was, at that time, the oldest man to go into space. Shepard and Mitchell successfully landed in the Fra Mauro region, making the most accurate landing of all of the Apollo missions. Here they set up a variety of experiment packages and collected close to 100 pounds of moon rocks. This was also the first mission to successfully use a color television camera. Near the end of their 33 hour stay on the Moon, Shepard performed one unscheduled experiment. Using a six-iron head attached to a lunar sample scoop handle, he hit two golf balls on the surface of the Moon. Shepard joked that the second ball went "miles and miles and miles."

The crew of Apollo 14 returned home to Earth on February 9. In the documentary "Moon Shot," based on the book by Shepard and Slayton, Al tells the story of being with his father shortly after his Apollo flight. His father asked if Al remembered what his father thought about his joining the astronaut program. Al recalled that his father had not approved. His father then raised a glass of brandy and said, "I was wrong."

Although Apollo 14 would be his last trip into space, Alan Shepard remained with NASA in the Astronaut Office until he retired from both NASA and the Navy in 1974 with the rank of Rear Admiral. In total, Alan Shepard spent 216 hours and 17 minutes in space, and 9 hours and 17 minutes on the Moon, and his NASA career lasted for 15 years, longer than any other Mercury astronaut.

After NASA, Shepard entered the world of business. He created a company, Seven Fourteen Enterprises, which was named after his two flights (Mercury 7 and Apollo 14). This served as an umbrella company for a variety of business ventures. He was so successful, he became the first millionaire astronaut. Shepard also served as the President of the Mercury Seven Foundation, which is a nonprofit organization that provides college scholarships for students wanting to pursue a career in science.

In 1996, Alan Shepard was diagnosed with leukemia. Two years later, on the 29th anniversary of his first moonwalk, July 21, Alan Shepard died in Pebble Beach, California. Five weeks later, his wife, Louise,

Regular Contributors**WILLIAM TROXEL**

William is the current chair of the club. He serves as activities coordinator for a local retirement living community.

TERRY ALFORD

Terry is also a founding member since 1980 and has been chair many times, as well. He has worked as an astronomy lab instructor at ETSU since 2001.

ROBIN BYRNE

Robin has been writing the science history column since 1992 and was chair in 1997. She is an Associate Professor of Astronomy & Physics at Northeast State Community College (NSCC).

ADAM THANZ

Adam has been the Editor for almost all of the years since 1992. He is the Planetarium Director at Bays Mountain Park as well as an astronomy adjunct for NSCC.

died of a heart attack. Their ashes were scattered together near their home in Pebble Beach. They had been married for 53 years.

Alan Shepard was many things - pilot, astronaut, businessman, devoted husband, hero. He paved the way for America's manned space program, and reestablished confidence in the Moon program after the Apollo 13 disaster. We owe much to this month's honoree. Let's all raise a glass of brandy to Alan B. Shepard, Jr.

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Alan Shepard: Complicated, Conflicted and the Consummate Astronaut

Nancy Atkinson, Universe Today, 5/5/11

<http://www.universetoday.com/85395/alan-shepard-complicated-conflicted-and-the-consummate-astronaut/>



The Bays Mountain Astronomy Club



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Dues:

The Bays Mountain Astronomy Club requires annual dues for membership. It covers 12 months and is renewable at any time.

Rates:

\$16 /person/year

\$6 /additional family member

If you are a Park Association member, a 50% reduction in fees is applied.

Find out more at our website:

<http://www.baysmountain.com/astronomy/astronomy-club/>

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