

# Bays Mountain Astronomy Club

☞ *Next Meeting: Mar. 1* ☞

## REFLECTIONS

Greetings fellow star watchers. Welcome to this month's installment. If you missed our last meeting, we opened with a very enlightening presentation by Greg Love "Orion the Hunter." He showed the complex makeup of this constellation. Thank you, Greg for opening our eyes to a better understanding of this common point in the night sky. That was followed by our keynote speaker, Dr. Mark Giroux from ETSU who presented a view of the Leo Ring and its mysteries. Thank you, Dr. Giroux for your willingness to share your research and conclusions in this area.

My goal is to bring to each meeting something different based on new research or updated information on established ideas. We may not understand or agree with the ideas, theories, or conclusions presented, however this is how we learn and advance. I thank each of you for your support and interest.

During the business meeting, I presented the Outreach Team and the Public Awareness Team. I am still seeking members willing to be a part of these important teams. I'm

BY WILLIAM TROXEL

hopeful the roles of these new teams will evolve over time but both must have participation from you to work. Until the roles are defined by you, the members, we hope the Outreach Team will expand the current resources to include additional websites, handouts, charts and games that we can have when the club is asked to make a presentation outside our own meetings, or could be given to area educators that could be used as part of their preparation for classes. Another goal for this team is to set programs for Astronomy Day events. These programs could be used here at Bays Mountain Park. I am sure that this team will find the right direction. I ask that you think about it. Better yet, it could be the inspiration when you are looking for something to focus on when you are star watching or reading.

The second team introduced was the Public Awareness Team. This team's goal would be to focus on ways to bring our name out into the community. The method or methods would be ongoing. I don't envision this as a one time event that comes up with one or two campaigns and then is finished. The goal would be to work on future campaigns as well.



## Calendar

### Special Events

Apr. 20 Astronomy Day.

### SunWatch

Every Sat. & Sun., 3 - 3:30 p.m.,

Mar. - Oct., weather permitting.

BMACers are always welcome to help.

### StarWatch

7 p.m.: Mar. 2

6:30 p.m. Mar. 9

7:30 p.m. Mar. 16 & 23

8 p.m.: Mar. 30

8:30 p.m.: Apr. 6, 13, 20, & 27

BMACers need to arrive 30 min. early to set up.

### CometWatch

7:30 p.m.: Mar. 13 & 20

BMACers must arrive before sunset to set up.

### BMAC Meetings

7 p.m., Discovery Theater

Mar. 1 Observatory cleanup and observing. Astrophotography by Brandon Stroupe & Dan Merrick. Const. Quest: Bob Smith - Leo the Lion.

Apr. 5 Planetarium - "Under the Milky Way." Const. Quest: Nate Wentzel - Coma Berenices.

May 3 Dr. Joseph Pollock from the Appalachian State University Astronomy Department will speak on "Specifically Paired & Binary Asteroids." Const. Quest: Sally Hale - Ursa Minor the Small Bear

They would be leaders in the development of the intro video (or videos) I spoke about at the meeting and in February's article. This project would also be ongoing as the video would need to be updated on a regular basis to keep people coming back to the website to see updated videos. This project could even grow to several videos featuring different events or programs we offer to anyone.

*(Continued on page 5)*

## STAR STUFF

BY TERRY ALFORD

For a couple of years now I have enjoyed the views of our local star provided by hydrogen-alpha telescopes. So much so that I didn't think I needed a white light scope anymore. So my venerable AT66 with an iconel glass solar filter was sold/traded. Even though the Ha scopes do show sunspots, they simply do not show the detail visible in a white light filter. This became obvious a couple of months ago when there was a flurry of sunspot activity.

The only white light filter I had was a 5-inch glass filter. I do have a 5-inch refractor, but it is definitely not "grab and go." I wanted something small and easy to carry outside. Hmm, my other scopes were just too big. Looking around on the shelves in my basement I came across an old 60 mm f/12-ish refractor. No mount, no tripod, but a decently built mostly all metal scope that was covered in dust. I had no idea of where this scope came from or even how long I had it. The scope was a "TraQ" brand, maybe from JC Penneys? Who knows.

With just a little mild soap and water the scope cleaned up nicely. A quick check with a cobbled up mount and photo tripod showed a good image and decent collimation. The supplied 25 mm Huygens

eyepiece worked surprisingly well even if the field of view was somewhat narrow. The lightweight scope looked like it would make a decent "G'n'G" solar photon collector. But I still needed a filter. A post on BMASTRO got a quick reply from Paul Lewis who had some Baader Solar Film available. Thanks, Paul!



Using a few pieces of scrap wood I made a cell for the Baader film. It would be secured to the scope's dewshield with a couple of nylon thumbscrews. But what about a mount?

The altitude trunions had a 5-16 thread and luckily I had some big four-arm knobs of that size (thanks, Bob!) It was pretty easy and fast to build a simple yoke mount out of some more scrap wood. But then a problem arose. The altitude trunions were not attached to the tube where the scope would be in balance. The wood cell for the

Baader filter was not that heavy but it made the imbalance situation even more pronounced. What to do? I did not want to drill new holes in the tube but to keep the Sun in view the trunion knobs had to be tightened down to an almost uncomfortable level.

The solution came from the minds of amateur astronomers that got those Chinese 6-in f/8 achromats years ago: put some weight inside the rear of the tube so it would balance better. In one of my parts drawers there were pieces and parts from an old WWII era tank telescope. I had removed the optics from these years ago but had not thrown the thick steel tubes away. A chunk about 5 inches long and weighing 2 lb. was just right.

## HAPPY BIRTHDAY SIR PATRICK MOORE

BY ROBIN BYRNE

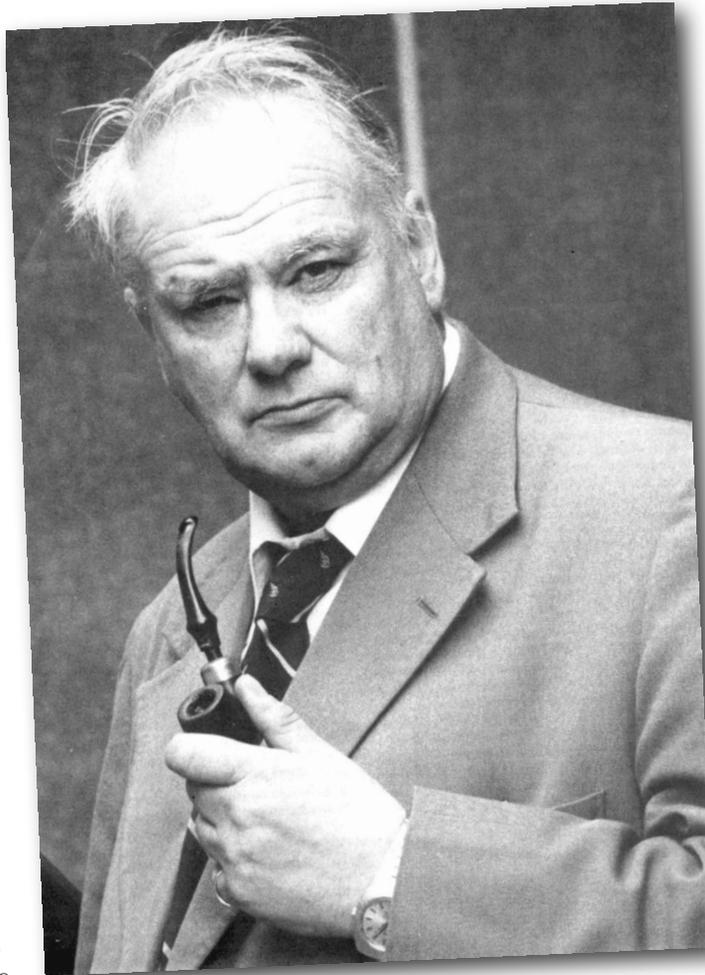
This month we celebrate the life of a man who brought the joy of astronomy to many generations, but whose life included so much more. Patrick Alfred Caldwell Moore was born March 4, 1923 in Middlesex, England. His early life was marred by a heart condition, which led to most of his education taking place at home with tutors.

A precocious child, Moore became interested in astronomy at the age of six when his mother gave him George F. Chambers' book "Story of the Solar System." When he was eleven, Moore joined the British Astronomical Association. One of his favorite objects to observe through his small telescope was the Moon, which led to Moore's first scientific publication, titled "Small Craterlets in the Mare Crisium," which he wrote when he was only 13. When his mentor was killed in a car accident, Moore, at the age of 14, was asked to take over running the small observatory in East Grinstead. Astronomy, though, was not his only strength. Moore's mother had been an opera singer, and, as a result, music was an important part of his life. He taught himself to play the xylophone, glockenspiel, and piano, and started composing for the xylophone when he was 12. Moore went on to perform some of his compositions later in life. He was also fluent in French.

Some of Moore's eccentricities also showed up early in life, such as wearing a monocle when he was only 16. Moore claimed it was due to having a weak right eye. And by the time he was 19, Moore was already wearing a full set of dentures.

In 1940, Moore, now only 16, felt the need to help defend his country

took place in Canada, and while on leave in New York, Moore had the opportunity to meet both Orville Wright and Albert Einstein. A lifelong bachelor, Moore claimed that it was due to the war. His fiancée was killed by a bomb that struck the ambulance in which she worked. No other woman would do, saying that "...second best is no good for me." Moore never forgave the Germans, stating "if I saw the entire German nation sinking into the sea, I could be relied upon to help push it down." After the war, Moore declined the offer to send veterans to college, and instead took a teaching position. It was during this time that he started observing with a 12.5 inch reflector, and continued to observe the Moon. He was fascinated by the glimpses of the Moon's far side that were visible due to libration. In 1952, Moore's first book was published, titled "Guide to the Moon," which was later released under the title of "Patrick Moore on the Moon." His second book was a translation from french of Gerard de Vaucouleurs' book, followed by another Moore original "Guide to the Planets."



*Sir Patrick Moore; President of the BAA (British Astronomical Association) 1982-1984. Image from BAA.*

during World War II. He lied about his age and joined the Royal Air Force (RAF). For the next five years, he served as a navigator. His training

*(Continued on page 6)*

NASA SPACE PLACE

**Tackling the Really BIG Questions**

**By Diane K. Fisher**

How does NASA get its ideas for new astronomy and astrophysics missions? It starts with a Decadal Survey by the National Research Council, sponsored by NASA, the National Science Foundation, and the Department of Energy. The last one, *New Worlds, New Horizons in Astronomy and Astrophysics* was completed in 2010. It defines the highest-priority research activities in the next decade for astronomy and astrophysics that will “set the nation firmly on the path to answering profound questions about the cosmos.” It defines space- and ground-based research activities in the large, midsize, and small budget categories.

The recommended activities are meant to advance three science objectives:

- Deepening understanding of how the first stars, galaxies, and black holes formed,

- Locating the closest habitable Earth-like planets beyond the Solar System for detailed study, and
- Using astronomical measurements to unravel the mysteries of gravity and probe fundamental physics.

For the 2012-2021 period, the highest-priority large mission recommended is the Wide-field Infrared Survey Telescope

spectroscopic surveys of the near-infrared sky for the community. It would settle essential questions in both exoplanet and dark energy research and would advance topics ranging from galaxy evolution to the study of objects within the galaxy and within the Solar System.

Naturally, NASA’s strategic response to the recommendations in the decadal survey must take budget constraints and uncertainties into account. The goal is to begin building this mission in 2017, after the launch of the James Webb Space Telescope. But this timeframe is not assured. Alternatively, a different, less ambitious mission that also address the Decadal Survey science objectives for WFIRST would remain a high priority.

The Astrophysics Division is also doing studies of moderate-sized missions, including: gravitational wave mission concepts that would advance some or all of the science objectives of the Laser Interferometer Space Antenna (LISA), but at

lower cost; X-ray mission concepts to advance the science objectives of the International X-ray Observatory (IXO), but at lower cost;

*(Continued on page 7)*



*Clusters of galaxies collide in this composite image of “Pandora’s Cluster.” Data (in red) from NASA’s Chandra X-ray Observatory show gas with temperatures of millions of degrees. Blue maps the total mass concentration (mostly dark matter) based on data from the Hubble Space Telescope (HST), the European Southern Observatory’s Very Large Telescope (VLT), and the Japanese Subaru telescope. Optical data from HST and VLT also show the constituent galaxies of the clusters. Such images begin to reveal the relationship between concentration of dark matter and the overall structure of the universe.*

(WFIRST). It would orbit the second Lagrange point and perform wide-field imaging and slitless

## MISCELLANEOUS

**Reflections****by William Troxel***(continued from page 1)*

I envision this team developing flyers that could be handed out at the park, StarWatches, solar viewing, Astronomy Day presentations and even as part of the packets that are prepared by the Outreach Team. The Public Awareness Team would also search effective media for us to focus our awareness, like papers, TV, radio, etc. When we look about, we each see something like an ad or someone doing something that sparks an idea. Try it and see for yourself. This, like the other team, is one that I hope you will consider joining.

I have been explaining what my vision is for the building and growth of our club, now I want to focus on some of the ideas for the mechanics of our meetings. I would like to see us moving toward a more formal business meeting. I'm not saying we have to have everything written out and posted on the website, I am saying that we put some structure in our meetings. This will have a few major effects. It will keep us on track. When this is practiced correctly, it uses our time most effectively. This will play a major role as we get closer to the spring season and we all want to get in observation time at our club meetings. When I look at other clubs, I see some are very formal, others are totally freestyle. I hope we can be in the middle. This is not something that you as members need to do. I alone have to make these adjustments. I just wanted to share with you my personal goal and why the format of

our meetings might change a little bit.

Toward the end of the last meeting, an idea about adding an outreach event that would focus on comet viewing was mentioned. Thanks to Terry Alford's research, we have come up with some dates that will be added to our public viewing. All the details will be presented at the March meeting. Adam sent out this information via e-mail. I also posted a copy of that e-mail in *bmastro*. Please review either media for details.

February marked the start of our "Thank You" e-mails for visitors at each meeting. I sent out three (3) e-mails last month. The note is very short, thanking the visitor for coming out. I added the web site address and invited them to return to a future meeting or event. Only time will tell us if the effort will be a success.

We will be cleaning up the observatory before the March meeting. We are asking you to come out at 6 p.m. to help with this project. Many hands will make short work. Please bring material like a vacuum (more than one will be needed) rags, mop, etc. Then, we will proceed back to the Discovery Theater for our program. Our keynote speakers will be Brandon Stroupe & Dan Merrick. Their topic will be Astrophotography Basics. Our Featured Constellation will be "Leo the Lion" presented by Bob Smith. The events start @ 7 p.m. on March 1 in the Discovery Theater. Hope to see you there!

Until next time, clear skies.

**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.

## Happy Birthday by Robin Byrne

*(continued from page 3)*

He then wrote several science fiction books and other works of fiction. He later published the Caldwell Catalog in 1982. All in all, he wrote over 70 books.

Moore first appeared on television in the 1950's in a debate about purported UFO sightings. Moore argued against their existence. The success of this appearance led to an offer for him to host his own show about astronomy. "The Sky at Night" first broadcast on April 24, 1957. The show ran once a month through 2012, with Moore only missing one episode, due to food poisoning. This long run earned Moore a place in the Guinness Book of World Records as the world's longest-serving TV presenter. The last eight years of the show were broadcast from Moore's home, since his arthritis made travel to London difficult. Always geared to the general public, Moore's show not only inspired a love of astronomy in its many viewers, but also played host to some of the most dramatic events in astronomy and space history. The show's highlights include: the first Western broadcast of the Soviet Luna 3 images of the Moon's far side, all of the Mercury, Gemini and Apollo missions, and continuing on to the modern space programs, plus the Voyager and Pioneer missions with broadcasts from NASA, and a variety of unique astronomical events, such as eclipses and the appearance of Halley's Comet. Always a friend to the Soviet space program, Moore was invited to the Soviet Union, where he had the opportunity to meet Yuri Gagarin.

From 1965 to 1968, Moore served as director of the new Armagh Planetarium in Ireland. Moore was responsible for going to Japan in order to purchase the Goto projector for the facility. During this time, he also helped to revive the Birr Telescope in Ireland, and establish the Herschel Museum of Astronomy in England.

Moore's personal and political beliefs were often controversial. He was staunchly conservative in some respects, especially concerning immigrants, women and homosexuality, but rampantly liberal with regards to animal rights, being fervently opposed to hunting and a strong supporter of protecting cats, as well as being opposed to capital punishment. He also had a mischievous approach to politics, being fond of the Monster Raving Loony Party because "they knew they were loonies." He also wanted to start his own party, called the Politically Incorrect School of Sociology because "...the acronym says it all."

Over the years, Moore was bestowed with many honors, including honorary degrees, he was the only amateur astronomer to be appointed an Honorary Fellow of the Royal Astronomical Society, he received the BAFTA (British Academy of Film and Television Arts) award for services to television, and Moore was knighted in 2001 for his popularization of science. He also may have been the only person to have met the first man to fly (Orville Wright), the first in space (Yuri Gagarin), and the first on the Moon (Neil Armstrong).

Moore was active all of his life, loving to play cricket, chess, and traveling around the world. He

managed to visit every continent at least once. It wasn't until his later life that health problems started to plague Moore. In 2004, arthritis started to take its toll, keeping him mostly at home. In 2006, he was diagnosed with a cardiac abnormality that required a pacemaker. On December 9, 2012, after a brief hospital stay, Patrick Moore died in his home, surrounded by loved ones, and with his cat, Ptolemy.

There are few people who can claim such a broad influence on so many lives. From his many years on television to all of his immensely popular books, Patrick Moore is easily in the top 5 of people who have spread the love of astronomy to the masses. All of us who enjoy the night sky were either directly inspired by him, or our mentors were. As we continue to share our joy of astronomy with others, the legacy of Patrick Moore will continue to live on.

### References:

Patrick Moore - Wikipedia  
[http://en.wikipedia.org/wiki/Patrick\\_Moore](http://en.wikipedia.org/wiki/Patrick_Moore)

Sir Patrick Moore obituary | Science | The Guardian  
<http://www.guardian.co.uk/science/2012/dec/09/sir-patrick-moore>

**NASA Space Place***(continued from page 4)*

and mission concept studies of probe-class missions to advance the science of a planet characterization and imaging mission.

For a summary of NASA's plans for seeking answers to the big astrophysics questions and to read the complete Astrophysics Implementation Plan (dated December 2012), see <http://science.nasa.gov/astrophysics/>. For kids, find lots of astrophysics fun facts and games on The Space Place, <http://spaceplace.nasa.gov/menu/space/>.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*

**BoBfest 2013****by Greg Love**

It was a cold morning, about 29°F, on Saturday, January 26 when Jon Peters and I were on the road to Boiling Springs, NC to attend BoBfest 2013. The previous night provided a severe, freezing rain. Our late start got us to the tail end of Dr. Ray Jayawardhanna's talk "Strange New Worlds: The Search for Alien Planets and Life Beyond Our Solar System."

The talks at BoBfest included:

- "Construction and Image of the Mac-Hunter Observing Facility and the Imaging Infinity Observatory" by Hap Griffin.

- "How Do We Know Our Sun is Recycled?" by Joe Heafner

- A history of Agnes Clarke and a brief history of the Cleveland County Astronomy Club by Tom English

- some meteorology by Brad Panovich

At lunch, we got an opportunity to explore the new facility, the Tucker Student Center. It had a very modern design, lots of glass and open spaces. It even included a food mall, though some attendees likely hiked the short distance to the cafeteria.

Announcements included Southern Star, StarFest, and a proposed public observatory and star party near Burnsville. I think we should all be excited about the public observatory. It will feature a fast, 34-inch mirror and will be located within a reasonable driving distance from the Tri-Cities.

At the end, it was back over the mountain to the Tri-Cities for us. Jon and I enjoyed our visit to BoBfest, and I think represented the club well.

# The Bays Mountain Astronomy Club



Edited by Adam Thanz:  
[thanz@kingsporttn.gov](mailto:thanz@kingsporttn.gov)

## 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/>

🍏 Made on a Mac!

## Calendar

### Special Events

Apr. 20 Astronomy Day.

### SunWatch

Every Sat. & Sun., 3 - 3:30 p.m.,  
 Mar. - Oct., weather permitting.  
 BMACers are always welcome to help.

### StarWatch

7 p.m.: Mar. 2  
 6:30 p.m. Mar. 9  
 7:30 p.m. Mar. 16 & 23  
 8 p.m.: Mar. 30  
 8:30 p.m.: Apr. 6, 13, 20, & 27  
 BMACers need to arrive 30 min. early to set up.

### CometWatch

7:30 p.m.: Mar. 13 & 20  
 BMACers must arrive before sunset to set up.

### BMAC Meetings

7 p.m., Discovery Theater  
 Mar. 1 Observatory cleanup and observing.  
 Astrophotography by Brandon Stroupe & Dan Merrick. Const. Quest: Bob Smith - Leo the Lion.  
 Apr. 5 Planetarium - "Under the Milky Way."  
 Const. Quest: Nate Wentzel - Coma Berenices.  
 May 3 Dr. Joseph Pollock from the  
 Appalachian State University Astronomy  
 Department will speak on "Specifically Paired &  
 Binary Asteroids." Const. Quest: Sally Hale - Ursa  
 Minor the Small Bear

Bays Mountain Astronomy Club  
 853 Bays Mountain Park Road  
 Kingsport, TN 37660