

# CONSTELLATION

the official publication of Bucks-Mont Astronomical Association, Inc

Vol 30, No 1

Winter 2015

Scott Petersen, editor

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## BMAA StarParty at the Michener Museum

*- by Dwight Dulsky*

Quite the memorable experience on December 18<sup>th</sup> for our members/club participating in this outreach. We had about 130 people in attendance according to the Michener. It was a steady stream of people the whole evening. Deb and Sandy did a great job at our welcoming table. Rodney gets the “Popsicle” award for braving the cold night with his big dob outside giving people some glimpses of the heavens through the suckerholes. Ed M navigated slooh.com most of the night showing live sky views from the scope in the Canary Islands – thank goodness they had clear weather. Scott helped explain to folks some of the astro images by our members and handed out starmaps and other brochures. Dwight worked at the “Scale of the Solar System” display. Everybody else, Mike Steve, Terry, Igor, Ed R, Gary, John and Lee spent the evening sharing their scopes and equipment with all our interested guests.

Thanks to Zoriana and the museum staff that was most accommodating in helping us move equipment, unlock doors and set up the event area for us (and had 2 tables of holiday treats!)

Also, thanks to the kind folks at Skies Unlimited in Pottstown who supplied S&Ts “Intro to Astronomy” booklets and other handouts.

Wonderful to have Steve Mazlin there for the evening as well – He was even able to log into his Chilean remote scope and live stream some great galaxy acquisition images.

Please share pictures if you have them – you can send to my email if you want [dulsky@verizon.net](mailto:dulsky@verizon.net)

Please visit the StarStruck exhibit before it leaves February 8<sup>th</sup>. As astrophotographers we are often very wrapped up in mastering the technical hurdles of this craft. But, StarStruck takes the subject matter of the cosmos another step farther – and that is the creative human spirit. This extra thought provoking experience is why these images are on display in the wonderful galleries of the Michener. [StarStruck](#)

Enjoy the holidays, Dwight

*Dwight Dulsky is the current BMAA vice-president. See a photo of the group on page 3 [-ed]*

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2015 BMAA Officers:  
Gary Sprague, President  
Dwight Dulsky, Vice President  
John Urbanchuk, Secretary  
Ed Radomski, Treasurer  
[info@bma2.org](mailto:info@bma2.org)

# We're starting a new year: 2015

- by Gary Sprague

2014 is behind us and BMAA had a pretty good year. One of the primary goals of our club is to encourage an interest and understanding of astronomy and in 2014, we had some notable accomplishments.

- We changed our schedule to only one public star each watch each month, with an alternate date in case of poor skies and with this new approach, had to cancel only one month.
- We had good attendance and excellent club participation at most of our public star watches. Thanks to everyone who attended and helped out.
- Our monthly meetings were generally well-attended covering many varied topics. We had a good representation of visitors and new members. Dr. Mazlin's presentation was a highlight in November.
- We started our "BMAA telescope" project and many members are contributing parts, pieces, time and expertise.
- We ended the year with a "smashing" event at the Michener Museum. Dwight organized and many members participated in the cloudy night "star watch." Thanks to all who participated!

2015 should be an interesting year!

- We'll evaluate and fine tune our dates and locations to ensure good star watch turn outs.
- We have a number of interesting monthly meeting topics planned, thanks to a member planning session in 2014.
- We plan to look into updating our website which is important for communication and outreach.
- The BMAA telescope project will continue.
- We expect to have a number of requested star watches.

With your support in 2015, we hope to continue to have a club where varied interests and skills of all our members will continue to improve and we can share our knowledge and enthusiasm with others.

*Gary Sprague is the current BMAA president [-ed]*

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SCOTT PETERSEN  
CONSTELLATION EDITOR  
[constellation@bma2.org](mailto:constellation@bma2.org)  
TEL: 215.598.8447

**The BMAA group at the Michener Museum  
December 18, 2014**



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**Observing Report**

**Coyle Field January 16, 2015**

**- by Igor Peshenko**

I planned to arrive to the field as early as possible to take a few photos of comet Lovejoy, but I was fooled by cloudy forecast for the early evening and arrived at the field as late as around 9pm when the comet already started to sink into Philadelphia skyglow. The gate was already unlocked. One side of the gate sagged and the bottom edge gouged into the ground so bad that I had to lift the gate with some efforts to open it. Rodney from BMAA with his guest were already there, then in an hour or so Mathew from ASTRA club joined us with his refractor. The night was very clear. There was some wind but not as strong as I expected and it subsided after 11pm. The wind was not a problem for my AT6RC at all, however, Mathew's long tube refractor was affected by occasional gusts. It seems trees around the field gave some protection from NNW. However, it was cold... temperature between 15F and 20F plus some refreshing breeze. The comet was easy to spot as a star-like object by naked eye a few degrees below Pleiades. I believe I saw very faint short tail through 70x11 binoculars, I do not think it was my imagination as I later checked its direction with my SkySafari app and it matched what I observed. Through Rodney's 14" dob the view was spectacular, very bright star-like nuclei surrounded by a cloud of glowing gas and a few faint stars showing through it added a charm to the view. It took longer than expected to make the equipment work and frame the comet at such cold weather. I could take just 10 x 5 min exposures of the comet before the intensity of background due to the lights from Philadelphia became too obvious. I wish I came earlier. At the same time we watched Jupiter's moons and their shadows transit. I left the field about 1:30am. Rodney and his guests stayed longer for more imaging.

*BMAA member Igor Peshenko is an active astrophotographer [-ed]*

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# Where does the sun's energy come from?

National Aeronautics and  
Space Administration



Every 1.5 millionths of a second, the sun releases more energy than all humans consume in an entire year. Its heat influences the environments of all the planets, dwarf planets, moons, asteroids, and comets in our solar system.

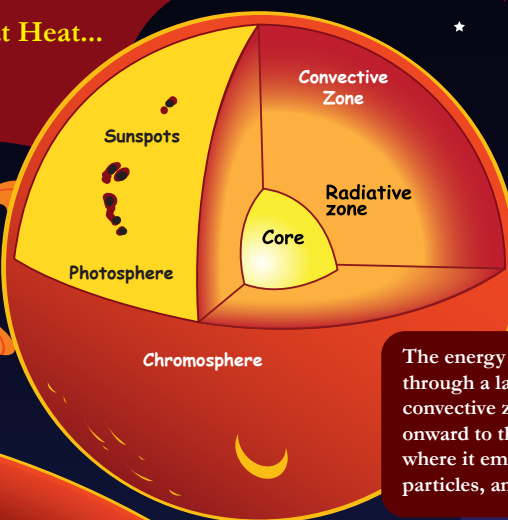
And that light travels far out into the cosmos—just one star among billions and billions.

Create a 'solar wind' that pushes against the fabric of interstellar space billions of miles away.

Allows gases and liquids to exist on many planets and moons, and causes icy comets to form fiery halos.

Powers the chemical reactions that make life possible on Earth.

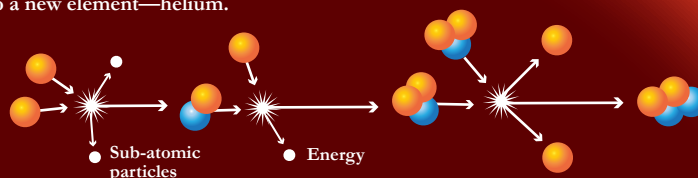
That Heat...



The energy travels outward through a large area called the convective zone. Then it travels onward to the photosphere, where it emits heat, charged particles, and light.

How does a big ball of hydrogen create all that heat? The short answer is that it is big. If it were smaller, it would be just be a sphere of hydrogen, like Jupiter. But the sun is much bigger than Jupiter. It would take 433,333 Jupiters to fill it up!

That's a lot of hydrogen. That means it's held together by a whole lot of gravity. And THAT means there is a whole lot of pressure inside of it. There is so much pressure that the hydrogen atoms collide with enough force that they literally meld into a new element—helium.



Nuclear Fusion

This process—called nuclear fusion—releases energy while creating a chain reaction that allows it to occur over and over and over again. That energy builds up. It gets as hot as 15 million degrees Fahrenheit in the sun's core.

Space Place  
in a Snap!