



# ***Harford County Astronomical Society***

*2015 Monthly Newsletter*

*Vol. 42 Issue 5--- May*

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*HCAS is an affiliated member of both the Astronomical League and the Night Sky Network*

This is an official publication of the Harford County Astronomical Society

Please go to our website for the latest updates for viewing schedule changes, and Public Outreach Events

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submit articles to the newsletter at : [hcasnewsletter@gmail.com](mailto:hcasnewsletter@gmail.com)

## Harford County Astronomical Society Executive Committee and Board Members

Please feel free to contact these members at anytime with your concerns.

### *Executive Committee:*

*Robert ( Bob ) Kesler..... President*

*Jim Gerlach ..... Vice President*

*Tim Kamel..... Treasurer*

*Rick Fensch ..... Secretary*

### *Sitting Members of the Board:*

Tom Rusek      Larry Hubble      Mike Talbard

Dave Jayroe      Tim Phelan

### *Technical Advisor to the Board: (Lifetime Standing)*

Mark Kregel

### *Astronomical League, Night Sky Network coordinator:*

Colleen Gerlach



### *HCAS MISSION STATEMENT*

- HCAS IS A GROUP OF PEOPLE FROM VARIED BACKGROUNDS OF ALL AGES BOTH MEN AND WOMEN WITH A COMMON BOND, THE LOVE OF ASTRONOMY. HCAS IS ASSOCIATED WITH THE HARFORD COUNTY COMMUNITY COLLEGE ( HCC ) AND HAS THE EXCLUSIVE USE OF THE OBSERVATORY AND ASSOCIATED MEETING ROOMS.
- 
- HCAS MEMBERS ARE FRIENDLY, AND WE WELCOME ANYONE WITH AN INTEREST OF ASTRONOMY TO JOIN OUR RANKS. A BEGINNER OR ADVANCED OBSERVER AND OR AN ASTRO-PHOTOGRAPHER. HCAS IS COMMITTED TO THE PEOPLE OF HARFORD COUNTY TO ASSIST AND AUGMENT LEARNING AND INTEREST IN ASTRONOMY, AS WELL AS PROVIDING STRONG, ALL VOLUNTEER OUTREACH PROGRAMS TO SCHOOLS, CLUBS, AND OTHER INTERESTED ORGANIZATIONS



### Goals for HCAS

- 1.- PROMOTE THE INTEREST AND LOVE OF ASTRONOMY FOR THE PEOPLE OF HARFORD COUNTY, MARYLAND.
- 2.- ADVOCATE FOR DARK SKIES AND FIGHT LIGHT POLLUTION AND LIGHT TRESPASS.
- 3.- ENGAGE WITH SCHOOLS, CHURCHES, SCOUTS AND OTHER GROUPS TO EXPAND KNOWLEDGE AND INTEREST IN ASTRONOMY.
- 4.- ESTABLISH AND MAINTAIN AN ATMOSPHERE AT THE OBSERVATORY WHERE EVERYONE IS INCLUDED AND INVITED TO JOIN AND SHARE ASTRONOMY BY VISUAL OBSERVING AS WELL AS ASTRO PHOTOGRAPHY, REGARDLESS OF SKILL LEVEL OR EDUCATION.



This newsletter is an official publication of :

Harford County Astronomical Society

P.O. Box 906

Bel Air, Maryland 21014

For any articles and or pictures you would like to submit to the newsletter for consideration for publication

Please read the following :

It is strongly suggested that all articles be submitted in a “Word” document and sent to the newsletter email address at: [hcasnewsletter@gmail.com](mailto:hcasnewsletter@gmail.com)

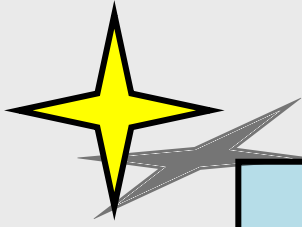
Articles and pictures will need to be submitted by the deadline. The deadline for each monthly issue is **NO LATER THAN** the third week of each month.

All pictures in each newsletter are copyrighted by the photographer, any duplication of the pictures need permission from the photographer, for permission please forward all inquiries to the newsletter and your request will be forwarded to the photographer, and permission will be granted by the photographer and only the photographer.

Any address changes should be brought to the attention of the editor given above. Any complaints concerning any content of this newsletter should be brought to the attention of the editor promptly.

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## *Upcoming Club Events for May*

### *HCAS Open House:*

Saturday May 23<sup>th</sup> @ 8:30 pm here at the Observatory ,  
Abingdon Elementary 5 th Grade Students ( 30 += A Full House )

### *HCAS Board of Directors Meeting :*

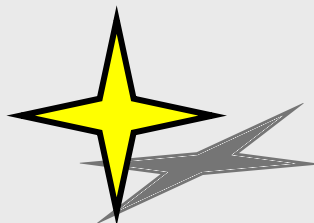
Thursday May 28<sup>th</sup> @ 6:30 pm in the classroom

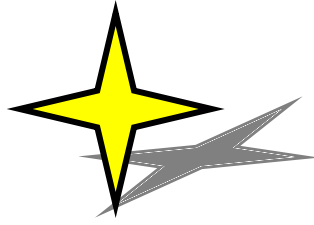
### *HCAS General Meeting:*

Thursday May 28<sup>th</sup> @ 7:00 pm in the classroom

### *HCAS Members Only Night:*

*Please consult the “Members Only” page of the website for details*



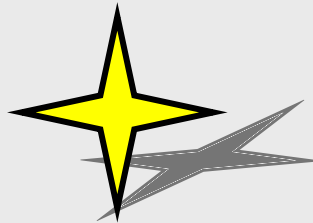


*TENTATIVE EVENT SCHEDULED:*  
RED PUMP ELEMENTARY SCHOOL  
S.T.E.M. EVENT

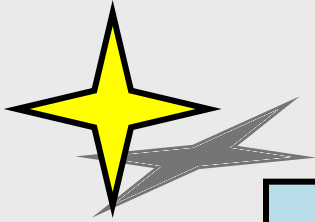
Red Pump Elementary School is planning a STEM day on TUESDAY May 19th from 9:30 AM - 3:30 PM. They are asking HCAS if we would like to participate in terms of a booth or table to set up displays, hand outs and possibly demo how a telescope operates.

If you can volunteer please let me know before Monday and we will follow up with more details. Mike Talbard will be the POC for this event.

Bob

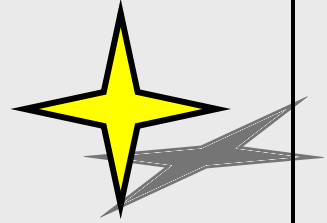






## HCAS 2015 ASTRO-PHOTO CONTEST

Dave J.



The time has come to submit your photos for the First Annual Astro-photo contest. The number of photos is limited to **two per member in good standing**. There will be two categories for the contest and they will be repeated in each of the following contests, and we will add categories as we deem necessary, so the following 2 categories are as follows:

### 1. Solar System,

Anything in our solar system including eclipses, and comets

### 2. Deep space,

Anything outside the orbit of Pluto.

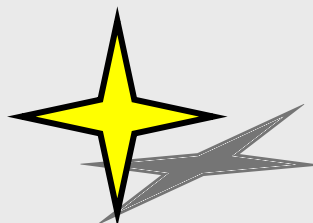
Please, we ask the following do not watermark your photos, so that the judging is anonymous. **The deadline is May 31**. Also, please submit your 2 photos as attachments to the following e-mail address:

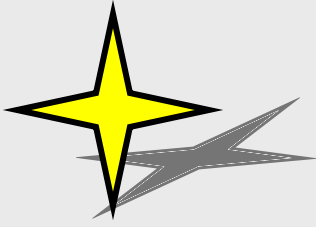
[djayroe3@verizon.net](mailto:djayroe3@verizon.net).

In the "Subject Line" insert the following **Astro-photo Contest**. Provide a caption for each of your photos. Please limit the file size of each photo to **10mb or less and use jpeg format**.

You will receive a confirmation of your entry, judging will take place at the June General meeting and voting is open to all present.

Winners to be announced as soon as votes are counted and the winning photos will be sent into the newsletter for publication. So get your pictures submitted as soon as possible, and as they say: **GOOD LUCK**





## March Open House Report

Tom R.

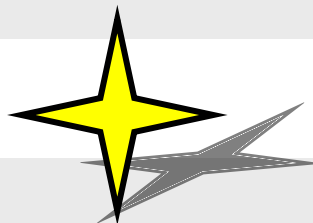
The weather did not look promising all day Saturday. It was on and off cloudy with periodic snow showers. Luckily, we ended up being very lucky that it was crystal clear for the entire open house.

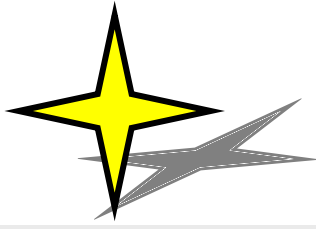
Clouds didn't start to roll in until about 9:30 after everyone had left. It was a success. Rick Fensch and Tom Rusek entertained the 40 enthusiastic guests after they arrived at dusk. We split everyone into two groups (scouts and other visitors) and alternated dome viewing and presentations in the large classroom.

The scouts were very young kindergarteners and the presentation was challenging. We talked about the moon, the planets, Pluto, the October lunar eclipse and current events. Everyone was attentive and we had a great time. Guests were able to see Jupiter and all 4 moons, our moon, and the Orion nebula in the dome.

Wayne French, a past president of the club, paid us a visit and helped to entertain our guests in the dome area. He brought a large bag of tee-shirts featuring the "Cat's Eye Nebula" to pass around to all interested members at our next gathering. Thank you, Wayne for thinking of us. It's always great to see former officers of the club.

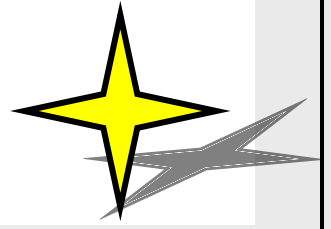
In retrospect, it looks like we are on a "Hot Streak" with our open houses. Let's hope this streak continues throughout 2015.





## Observing Reports

Members



### Planets this month May :

*Mercury* – very low in the *WNW* evening twilight, sets after Mid month

*Venus* ----- low in the *W* in the evening twilight

*Jupiter* ----- in the *W* after dark, sets in the *WNW* near 2 am

*Saturn* ----- in the *SE* at dusk, after 11 pm, transits in the *S* near 2 am

### Moon Phases this month:

*FULL MOON* – Sun. May. 3 @ 11:40 pm (Flower Moon)

*Last Qtr.* – Mon. May. 11 @ 6:36 pm

*New Moon* ---- Mon. May 18 @ 00:13 am

*First Qtr.* --- Mon. May 25 @ 1:20 pm

### Other notable events for the month:

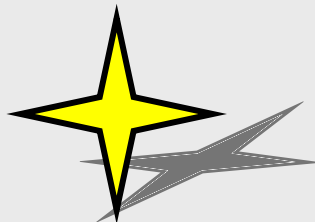
*Mon. May.4* ----The Moon is 6 Deg. Of *Saturn*

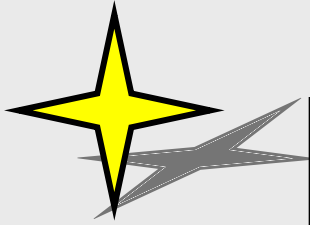
*Wed. May 6.* ----- The start of the Eta Aquarids

*Thurs, May 21* --- The *Crescent Moon* , *Jupiter*, and *Venus* are within 8 deg. of each other

*Tues. May 26* - The *Straight Wall* will be visible this evening.

Any and all feedback on this, or if you would like to add to it for next month then your input will be appreciated. Just send your info over to the Editor at the newsletter.





## Colorized Moon

Rick F.

Saturday night (April 4th) we had ourselves a full moon and clear skies. I decided to go out back and set up the telescope. I've shot the full moon before and it has always proven to be difficult to get any details. All of the features on the surface are evenly lit by the sun's light that you can't make out anything. Craters and mountains disappear without their deep dark shadows that ink up the terminator line during each night's phase.

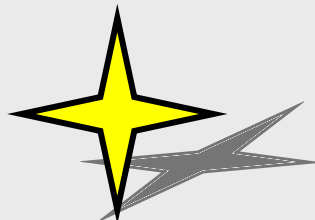
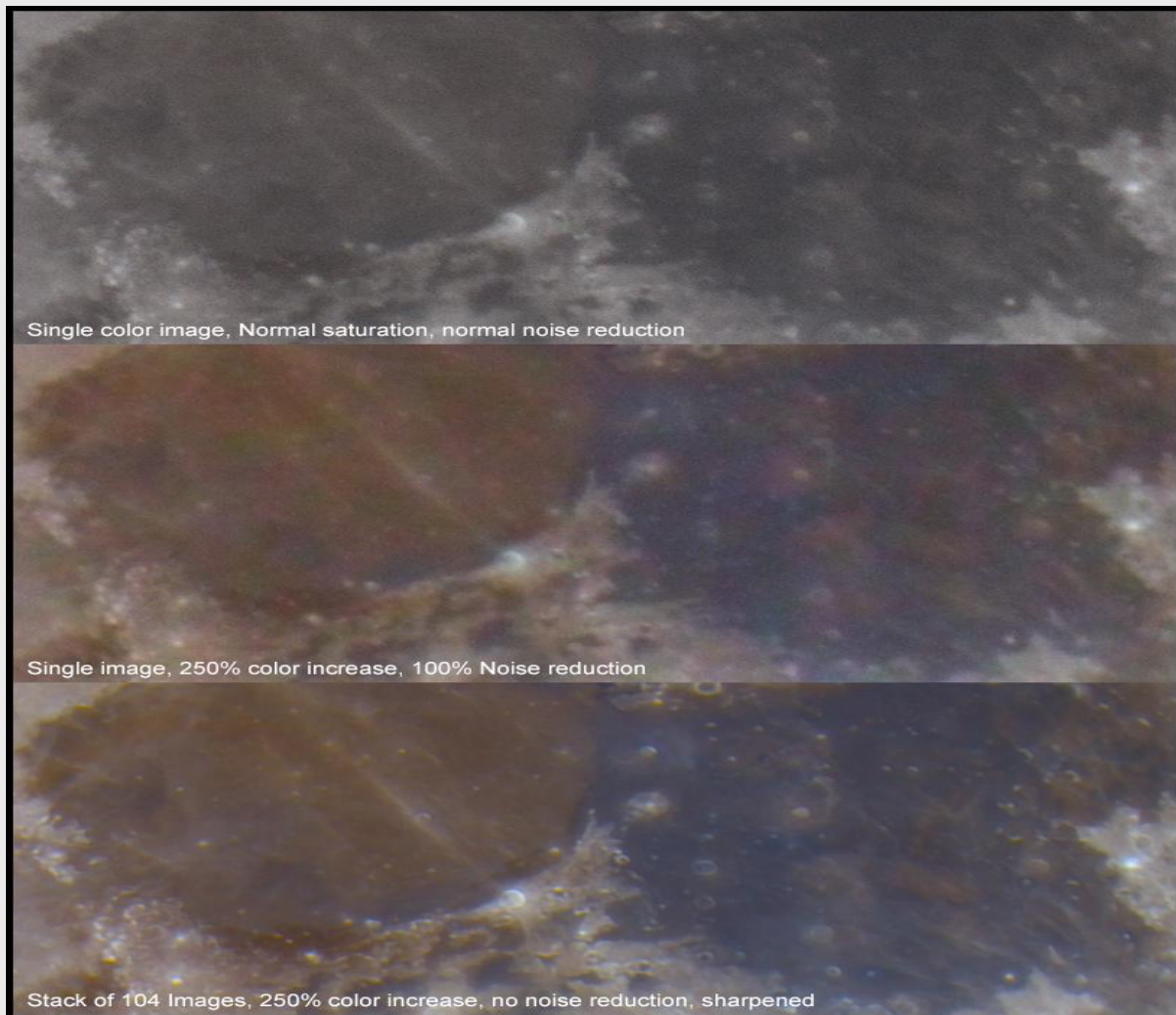
So how could I make tonight a little different? How about try to bring out color instead of shadows? I've attempted this before but not with a full moon, and the last time I tried I didn't take enough images for good quality. This time I decided to take about 100 images to be used for stacking. I figured since it's the moon and not a DSO I would have the time for 100 images since my exposures were extremely fast.

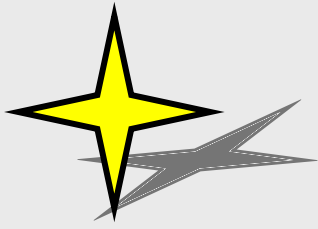
I placed my Canon 60D directly on the back of my 6in Schmidt cassegrain along with a 6.3 reducer and made sure I was set to Lunar tracking. I was able to shoot at ISO 200 with an exposure of 1/400th. Seeing was normal for my part of town. After capturing 104 images I was able to process them in Adobe Lightroom and Photoshop. Once all 104 images were averaged together the signal to noise ratio was improved by 10 times! Since the camera's sensor noise was pretty much completely gone I was able to increase the color saturation by %250. This brought out the extremely faint color that is present from different moon's surface without plaguing the image with color noise and artifacts. "Editors note: the full image will appear at the end of the newsletter allowing the detail to stand out"



In the following photo you can see how much the stacking process helped with getting subtle color differences and details. The first image is straight off the camera with no adjustments. The middle photo is the same image from the camera but I have increase the saturation and the did some noise removal. The bottom image is the final version from all 104 images.

Take your time to see the differences that are between the middle and bottom photo. Most people may be very happy with the middle version, but once I took notice how much more color details were present in the stacked version I was happy that I took the time to process everything.





## Observing Report

Broad Creek 4/11/15

Tim P

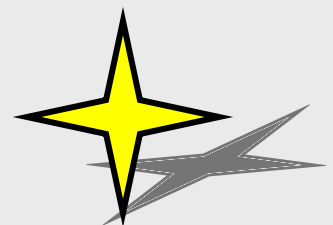
On Saturday 4/11 Bill Gelston, Cathy Tingler, Ken Carle, and I went up to Broad Creek. We arrived at the gate at 7 PM and found it unlocked and the padlock was lying on the ground. The reason for this was that the people who live down the road were having guests over and it was actually quite annoying because their vehicles kept driving past us and we'd have to shut our eyes every time they drove by. We survived though.

The weather was impeccable for an April evening! We had temps in the low 50's and upper 40's when we packed up. Clear Sky Chart had us at a 5/5 transparency and the seeing on Jupiter was fantastic as well. We all observed Jupiter multiple times with its four Galilean moons all in a row on the west side. We even watched Io (the closest of the four) transit Jupiter and leave a shadow on the surface. As I explained, we were watching a solar eclipse in progress on the surface of another planet.

A special observation worth mentioning was that Cathy used her Sky Safari app to locate comet c/2014 Q2 (Lovejoy) in Cassiopeia with a reported magnitude of 9.7. It turned out to be an easy find in binoculars located a couple of degrees east of the star Segin. Sky Safari reported the magnitude to be 9.7 but the most recent visual observations say mag. 7.0 which seems more appropriate given the ease with which we were able to locate the comet. Regardless, it was neat to see the comet again a solid three months past its perihelion.

We all went through the list of favorites for the season, M42, M44, the Double Cluster, the open clusters in Auriga, and M51, 81, & 82. As was requested of me by Rick I took a quick and dirty images of Venus and the Pleiades before they sank into the trees. The image should be somewhere else in the newsletter. I spent some time going after the faintest galaxies in Canes Venatici that the sky would allow. I ended up being able to spot a nice almost-edge-on galaxy NGC 4217 at apparent magnitude 11.20.

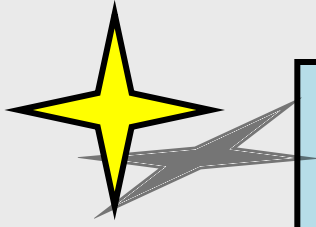
We packed things up at 11 PM when it was still quite pleasant out. It had been a while since any of us had done any good observing up at Broad Creek so we really enjoyed the night. We locked the gate behind us when we left not sure if anyone else would be visiting the locals. All in all it was a great night.



Venus and the Pleiades



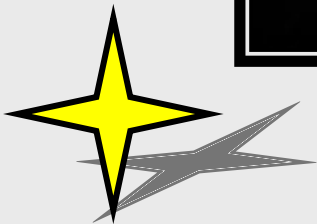
Tim P.



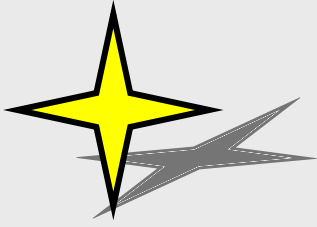
## Observing reports Cont'd

Rick F.

I don't really have anything to write for Broad Creek. It was hazy the whole time. We mainly just hung out and just played with our gear. We looked at Jupiter and Venus but that was pretty much it. I did a little practicing with eyepiece projection photography. I held my phone over my eyepiece and got a pretty decent image of Jupiter. I took a burst of 20 photos and stacked them in Photoshop and ended up with this. That is Io next to Jupiter. My buddy Aaron from Delaware also joined us and hooked his camera up to my scope to get a few images of Jupiter as well. Here is a shot I took of him fiddling around with camera settings. And there is nothing but light pollution haze above him.







## Triangulum Galaxy (M33)

Peter N.

### Triangulum Galaxy (M33) on Feb 13, Feb 20, Mar 6 and Mar 8 2015

This image shows the Triangulum Galaxy including the giant star forming nebula NGC 604 (the bright reddish area near the 7 o'clock position in the image). The brightest stars of NGC 604 emit ultraviolet energy so powerful that they form one of the largest clouds of ionized hydrogen gas known to astrophysicists; this cloud measures 40 times the size of the visible portion of the Orion Nebula. The nebula is over 6300 times more luminous than Orion and would be brighter than Venus if it were at the same distance from Earth as Orion.

The Triangulum Galaxy is 2.8 million light years from Earth. I captured the data for this image over a period of 4 nights in February and March 2015. I used a monochrome thermoelectrically cooled CCD camera with red, green and blue color filters plus an H-alpha narrow-band filter on a 92mm refractor.

I captured this image from above my brightly lit condo parking lot near an even brighter shopping mall. To that I used a light pollution filter in front of my camera (for the red, green and blue color filters only).



Peter Nerbun

The Moon in Color



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