

Event Horizon



Volume 19, Number 10
October 2012

From The Editor

With this issue, so ends another "volume" of Event Horizon, our club newsletter and treasure trove of club history. Each issue reflects the interests and opinions of our members and this issue is no exception. I hope you enjoy it. Please be sure to thank our contributors.

In his last column of this membership year our Chair, Bob Christmas, reminds us that it is time to thank the folks who keep the club up and running and he graciously acknowledges them in his column this month. We all owe Bob a big 'thank you' for taking on the very important role of Chair and leading our club this past year. It can be a difficult role and Bob made it look much easier than it is. Thank you, Bob!

Clear skies,
Ann Tekatch
Editor@amateurastronomy.org



Chair's Report by Bob Christmas

Well, folks, October is upon us, and for the HAA, that means the Annual General Meeting is coming up. This year, it is on Friday, October 12, 2012 at 7:30pm at the Hamilton Spectator Auditorium. This is the night of the HAA's election for the 2012/2013 HAA Council, which will replace the outgoing Council. To that end, I would like to express my deep, heartfelt thank you to all members of the 2011/2012 Council for all their work over the past year during my term as your Chair.

I shall start with Jim Wamsley, who, as Secretary, has worked tirelessly over the past year in everything from public outreach, such as organizing and running sidewalk astronomy nights, some of which are impromptu, spur of the moment affairs, and helping run observing nights at Binbrook Conservation Area, the HAA's local dark sky site. Over the past year, Jim started up and organized the HAA's Loaner Scope Program, which has been a huge success! Jim has also been the driving force in organizing and running the collection of nonperishable food items for the Hamilton Food Share program's food banks, through which over (Continued on [page 2](#))

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Chair's Report (continued)

1000 pounds of food has been collected... and counting!

Our Treasurer, Steve Germann, has done an impeccable job at this portfolio. He has worked diligently in keeping the HAA's books in top order, and his help and dedication have been invaluable. Steve has devoted a lot of time and energy in this role despite his busy schedule over the past year.

John Gauvreau, our Observing Director, has been the paradigm of volunteerism and dedication for this club. His work and devotion to the HAA this past year testifies to that. I, among every one of you, have thoroughly enjoyed his fascinating The Sky This Month talks and accompanying EH articles he has composed and given to us every single month. John's talks have been an absolute treat and a joy to listen to and watch, and he has shown so many fascinating space and astronomy images, including numerous awesome images taken by our club's own, talented astrophotographers. John, like Jim and many others who I will mention, has been an active participant in public outreach events for the club, such as public observing nights, sidewalk astronomy, observing in Binbrook, etc.

Speaking of public outreach, public events, and so on, our Second Chair, Don Pullen, as well as Councillors at Large, Joe McArdle, Brenda Frederick, Harvey Garden, Doug Black and David Tym, have done a fantastic job volunteering their time at such activities, and this has been much appreciated, not only by the club, but by the many schoolchildren, Cubs, Scouts, seniors, social groups and members of the public who they helped introduce this great hobby of astronomy to!

Our ever-diligent Membership director, Matthew Mannering, has not only done a fabulous job taking care of our club's memberships and renewals, but he too has been a huge help during observing nights and public outreach too. Well done, Matthew!

Councillor at Large Keith Mann has done a terrific and meticulous job at writing our Meeting Summaries every month for the EH, and they have been a treat to read every month.

For a few years now, Mario Carr has been in charge of Public Education, and publicity in general, for the HAA, and I cannot say enough how fabulous a job he has done in getting the word out about our club, and about astronomy in general, to the public in the Hamilton area. His numerous interviews on CHCH television and 900 CHML radio have helped put the HAA on the map. His crosswords in the EH are a lot of fun too!

The Editor of this publication you are reading, the Event Horizon, is Ann Tekatch, who has transformed this monthly newsletter into a polished, professionally produced piece of reading, jam-packed full of fascinating articles, sky charts, images, astronomy tips, etc., as well as her daughter Alexandra's hilarious cartoons. The quality of the Event Horizon is a true testament to the HAA's mission of communicating astronomy to its members and to the public, and is truly a reflection of Ann's dedication, enthusiasm and very hard work!

Then there is our Recorder, Mike Jefferson, who so diligently takes the minutes of our Council meetings every month. Mike is the glue that keeps our Council meetings organized and in good order. Mike has also been an active volunteer for our club in various events and activities.

In addition to being our Second Chair, Don Pullen is our Webmaster, in charge of the HAA's website. Over the past year since he took over this role from me, Don has done an excellent job maintaining the HAA website, as well as bringing in some new and innovative features, such as our Facebook and Twitter pages, as well as weather thumbnails, the current-moon-phase applet, and other cool additions.

(Continued on [page 3](#))

Masthead Photo: The full moon rising over Burlington as seen from Kern Park. Photo taken by Steve Germann using a Canon XTi DSLR and 85mm zoom lens.

Chair's Report (continued)

Every single member of my Council over the past year have been an enormous help in keeping this club running, continuing to grow this club to ever loftier heights, and helping to make the HAA Canada's largest independent astronomy club. I thank each and every one of you for all your hard work!

Looking forward, the 2012/2013 season promises continuity with our Monthly Meetings featuring a fantastic lineup of great speakers, Cosmology Discussions, Book Club meetings, and, new for this year, periodic Astrophotography workshops. I am confident that this will be another great year for the HAA!

Clear Skies!

Bob Christmas



Treasurer's Report by Steve Germann

(Unaudited)

Opening Balance	\$5,479.10
Revenue	\$ 711.00
Expenses	\$ 158.20
Closing Balance	\$6,031.90

Major revenue in the interval included 50/50 from September (\$41), and memberships. (\$670). Our expenses in September were the payment for our post-office box (\$158.20)

This is the penultimate treasurer's report for the council's fiscal year. It has been a good year, financially, with excellent sales of the calendar, and excellent decisions on expenditures that are helping to make your astronomy club the best it can be.

I will be producing detailed financials for the meeting, and in the November newsletter, the year end financials for the club. Suffice it to say your club has enough money.

HAA Helps Hamilton



To support our community, we will be collecting non-perishable food items and cash for local food banks at our general meetings. Please bring a non-perishable food item to the meeting or a donation of cash and help us help others in these tough economic times.

If you would like to help or have any questions about this initiative, please contact Jim Wamsley at 905-627-4323.



Black Forest Star Party, September 2012 by Don Pullen



Black Forest Star Party is one of two star parties held at the Cherry Springs State Park. This is a specially designated camp area set up expressly for astronomers and is located in one of the darkest locations east of the Mississippi in north central Pennsylvania. It's about a 4-6 hour drive (depending on the border crossing, stops and if you're hauling a large trailer) which makes it fairly convenient for us in the Hamilton area. We do have comparable skies within similar drive distances, but we don't have a field that is as well set up as Cherry Springs.

This field has a number of amenities that makes it very attractive for camping and doing astronomy over several nights. Aside from the very dark skies, they provide electricity to posts located around the field for charging batteries and running laptops (but not suitable for RV/Trailer hook-ups). They also have fresh drinking water for cooking. And they have well-maintained washroom with red lights. Sadly there aren't any showers on the field, but there are some within a short drive at a nearby campground.

The field is wide open with good views in all directions and is located on one of the highest mountain peaks in the Allegheny Mountains. The park is surrounded by trees and berms, which help to reduce the light from cars driving by. The nearest towns are more than 15km away in valleys and they have taken an active role in helping to reduce their light pollution.



Don's campsite at Black Forest Star Party. Photo courtesy of Don Pullen.

One of the amazing things (almost as good as the skies) is the price of registration - \$30 USD which includes the event and camping. Comparable events in our area cost more than 5 times that price. You can camp any time outside of star parties for \$12 a night or get a Galaxy Pass for \$60 which provides unlimited camping for the year. Any way you look at it, it's a great price at a spectacular location. And once you are south of Buffalo, it's a very pretty drive and the roads are mostly good.

Due to favourable weather forecasts for the week and hoping to get a good spot, I arrived on Tuesday. On arrival, I saw that already there were between 60 and 80 people set up on the field, some of which had been there since Saturday and had enjoyed good skies most of those nights. I got everything set up

with proper alignment, and even got some new equipment connected and working. I had been experimenting with trying to remotely control everything from my computer including imaging, guiding, focus and mount positioning. Since I had some success fairly quickly the first night, I decided to take a series of shots of M33 (Triangulum Galaxy). I used my DSLR for the images, but found they were quite noisy with 10min exposures - a little disappointing. I also found that my set up wasn't as efficient as I had hoped, requiring frequent trips to the scope for various adjustments. After a few hours of fiddling and frustration, I covered the scope for the night and went off to visit other sites. It goes to show that success with testing in the basement isn't a true indication of how well it will work in the field.

(Continued on [page 5](#))



Beautiful photo of the galaxy, M33. Photo by Don Pullen

I spent the next 2 clear nights working out minor issues with the gear to make things more practical for remote operation - with assistance from some my neighbours. I also tried my new CCD camera (Orion StarShoot G3) but found its field of view was so narrow, it was hard to locate objects for imaging. Precise alignment is a must. Normally for imaging, I replace the finder scope with an auto-guider so I have no visual means to align on a target. I guess I'll have to modify the scopes so I can add another finder to avoid these problems.

Wednesday and Thursday saw more people arrive until the field was nearly full. The limit had been set for 475, but apparently the organizers (Central Pennsylvania Observers) did the old airline trick and oversold (more than 530) in the hopes that some would not show (unlike the airlines though, they don't provide refunds). The actual attendee count I heard was around 460 so I guess it worked, the field was full but not overcrowded, and they made more money.

HAA members Les and Terri Webb also arrived early in the week, and Matthew and Janice Mannering got there on Thursday. New member Robert Smoke arrived on Friday for his very first star party. Glenn and Gail Muller had arrived on Thursday with Glenn scheduled to do one of the presentations on Saturday. Over the course of the star party, I figured there were about 20 Canadians in total from the Toronto area (and north), London, and Niagara. We were well represented.

We had some rain on Friday but it eventually cleared by 11. I didn't bother to uncover the scope that night and decided instead to do some more visiting to enjoy the company and the views through their equipment. I wanted to call it an early night since we had presentations to hear during the day on Saturday and public viewing later that evening. The skies were expected to be good all night.

I only attended 2 of the 5 presentations on Saturday. I caught Terry Trees (Pittsburgh/Kiski) talk on ancient Greek astronomy and then Glenn's talk about early science/space-travel fiction. Both talks were excellent which wasn't surprising. I've heard both speakers before on other topics and knew they were good presenters - they didn't disappoint. There were additional talks about the James Webb Telescope, Magnetars and the Penn State program to develop a Moon lander.

Saturday's public night was a huge success. Over 400 people came to look through scopes and learn more astronomy. I personally must have handled more than 120 myself over the 3 hours the public were permitted to wander the field. One of my neighbours (Larry) must have had more than 150 since he has a great set up and is very good with these types of events.

Most people packed up to head home on Sunday, but I had been invited to stay one more night to do a presentation for a dignitary from DCNR (Department of Conservation and Natural Resources). (Continued on [page 6](#))

Black Forest Star Party, September 2012 (continued)

Resources for Pennsylvania - comparable to MNR in Ontario). Since the forecast was good, I decided to help. It turns out it was the top guy for all parks in PA and his wife. They were visiting to learn more about this particular location and what made it so unique. I did my best to show my enthusiasm for the park, why we made the trip to PA and of course, the money we spend when we are in the area. I gave them views through my scope at various objects and also brought out the binoculars. Several hours later, they left expressing their gratitude and talking about additional ways the DCNR can support Cherry Springs. So at least initially, until the glow of the wonderful skies subsides, it appears that we were successful in gaining their support.

Since it was going to be my last night, I decided to switch over to imaging and take some more pictures of things we can't as easily enjoy at home. I got some pictures of the Saturn Nebula and Sculptor Galaxy (see photo at right). Eventually fatigue and the long road ahead of me on Monday convinced me to pack it in for the night and the week.

Many of the regular visitors to Cherry Springs had indicated they wanted to come back during the new Moon of October and had invited me to join them. While the nights can be rather chilly then (they were for this trip), I just might go one more time this year.



While I have some problems with the way the organizers run this particular star party, thanks to the DCNR staff and all the attendees, it was a great event and a lot of fun. We were lucky to have so many good observing nights. I will be back again next year and I hope more HAA members will be able to join me. It's a great place to observe, a lot of nice people to meet and you can learn a lot to get better with your astronomy.



Photo above: Sunday, after many attendees had left, Don Pullen took this panoramic photo of the observing field.

Photo top of page 4: Panoramic photo of Cherry Springs State Park taken on the first day of the star party.

Photos courtesy of Don Pullen.



Shooting the Moon by Steve Germann

Thrice in 3 months I have made the trek to a site with a clear view of the rising Moon. Considering that the full Moon washes out the fainter stars and galaxies, the evening of full Moon rise is normally a time when astronomers stay home and dream about clear dark skies instead. Photographing the moon is like making lemonade from lemons. It's the best way to turn a so-so night into an astronomical opportunity.

The second time I went to the Burlington Waterfront Park, where they now have a promontory out into the lake with a clear view due east and north of east too. That time, the rising Moon was hidden by distant clouds, and my dad asked, if I have already photographed the rising moon once, why do it again?

Well...

I thought of 9 reasons you will find that photographing the moon is different and worthwhile each time.

Photographing the moon is easy. It's a day-lit object even at night, which means you can use day-time settings on your camera. Having such a bright target to focus on also provides you with an opportunity to tune your astrophotography equipment. Part of the charm of the rising moon is that you know it's coming up through a great distance of atmosphere, so you don't care at all about the seeing or clarity. Let the atmosphere colour the moon as it may. Not needing to do long exposures means you don't have to worry at all about polar alignment. Just set up your tripod and whatever glass you want to use, and point it at the horizon.

You don't always get the perfect weather, so you might get a better shot than ever before, this time.

The moon has librations, which mean that each time it rises, it presents a slightly different face to us. These librations are a side effect of the Moon's elliptical orbit around the earth. At some times, it's much closer to the earth than others, appearing larger that month. Don't forget the 'super moon' back in April.



Full Moon rising over Burlington. Photo by Steve Germann

Over the course of a year, we get to see about 53 percent of the moon's surface that way. That's not even including the possibility of traveling to the Southern Hemisphere.

The moon rises from a different direction each time, presenting a different backdrop for the photography. Also, the moon rises 'in' a different direction

each time, meaning that it does not come straight up. That can also make interesting effects. The shape of the moon's orbit, its closeness to earth and its progress in the orbit add up to make the Moonrise happen at different times each month. This time of year, the 'Harvest Moon' rises at dusk several days in a row, as its orbit and advance partly cancel each other. So the full moon seems to linger, and spend a lot of time low in the sky when people can see it in the evening.

The moon is never full on the minute it rises, so each time we will catch the moon a different age beyond fullness. (Or in some cases, we anticipate full by a few hours). With a photograph, you can examine for any effects of un-illuminated surface. Because the moon is closer to earth than the sun is, the part we can see from earth will be fully illuminated even if it's not exactly at the time of fullness. The full moon is 9 times brighter than the first and third quarter moons, because the sunlight reflects preferentially straight back at us.

Weather effects distort and decorate the face of the moon as it rises. There's a chance for a mirage,

Shooting the Moon (continued)

or for a chance alignment of clouds which will make the sight memorable. The most impressive moon photo I remember is one by John Gauvreau, which showed the moon partially obscured by distant forest, but well above the nearby forest in the sky. The mirage allowing the rising moon to be seen well above the horizon is a rare but impressive sight.

Photographing the rising full Moon is a great way to do astronomy in the daytime, without having to tear down and pack up late at night. The full moon rises usually at a very civilized evening hour. That

also allows more time to chat at our favourite coffee shop after we are finished.

Finally, it's a challenge to use the tools, maps, and compass to choose a good vantage point, and to be looking in the right direction when the moon first peeks above the horizon. Being the first to spot the rising Moon is fun!



September Meeting Summary by Keith Mann

Monthly meetings of the Hamilton Amateur Astronomers resumed September 7 after the summer recess. Chair **Bob Christmas** opened the meeting at 7:30, welcoming members and guests alike. Bob recapped the summer's events, including the spectacular transit of Venus (observed, to judge by a show of hands, by over half of those present) and a successful public observing night at McQuesten Park. Bob also mentioned that preparations for the club's 2013 calendar were underway and that photo submissions were being accepted. He closed with a reminder that next month's meeting would be the annual general meeting at which council for the upcoming year would be elected.

Secretary **Jim Wamsley** announced that the club's three loaner telescopes, which had been out on loan all summer, were already booked for September and would be going back out to members after the meeting. Jim invited members to book a 'scope for October, pointing out that to rent a comparable 'scope from one local store would cost \$80 per week - this makes the loaner 'scope program a substantial benefit of an HAA membership!

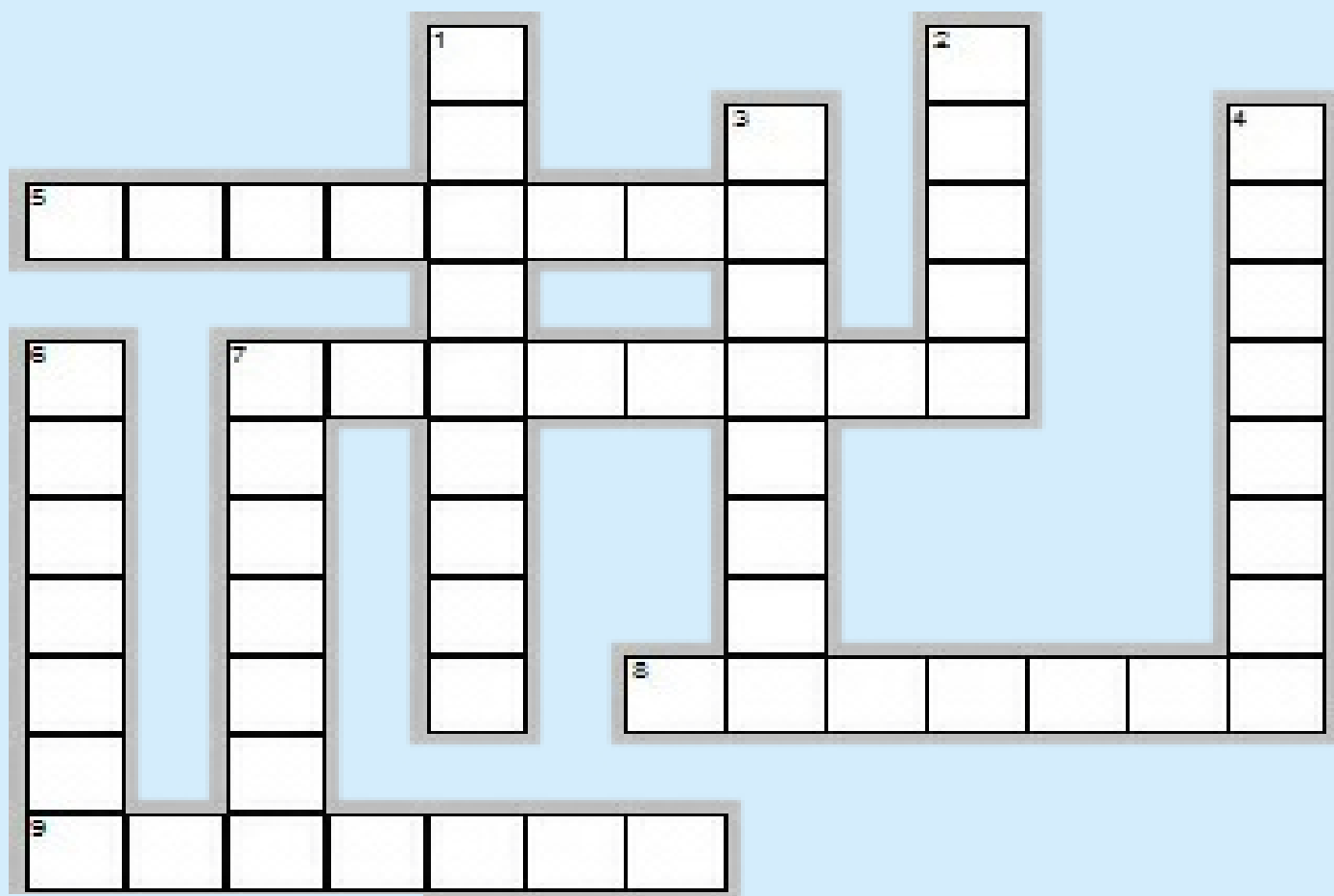
The guest speaker for the month, **Tim Philp**, took the stage to present a lecture entitled *Gravity - From Ancient Times to the Present*. Tim reviewed the evolution of the scientific understanding of gravity, from the earliest Aristotelian view through classical, medieval, and renaissance theories, and eventually Newton's famous universal law of gravi-

tation. Tim also discussed modern theories and concepts, including Einstein's special theory of relativity, gravity waves and gravitons, and particle physics' most recent insights into the Higgs boson and the very nature of mass itself.

Following an intermission, during which a slideshow of Jim's transit of Venus photographs was shown, the monthly 50/50 and door prize draws were held. Observing Director **John Gauvreau** then led a discussion of members' summer observing experiences before beginning his presentation. John recapped the thrilling landing of Curiosity's landing at Gale Crater on Mars and described some upcoming astronomical events of note, including a conjunction of Moon and Jupiter and the Moon's occultation of the minor planet Ceres. He then described a prominent feature of the summer sky: the Milky Way seen through the "Summer Triangle" of Vega, Deneb and Altair. John talked about the constellations of the triangle, and, to end the meeting, told the associated Chinese astronomical myth of Chih Nu and Niu-Lang, star-crossed lovers if ever there was a pair.



Astronomy Crossword by Mario Carr



Across

5. For two weeks starting Oct. 13 you can see this type of light
7. For the next two weeks starting Oct. 7 it will be a good time to see the Milky Way because the sky is . . .
8. On Oct. 18 the crescent moon groups with Mars and this star
9. On Oct. 3 Venus is close to this star

Down

1. On Oct. 9 this meteor shower peaks
2. On Oct. 12 the crescent moon is below this planet
3. On Oct. 4 the moon and Jupiter are close to this star
4. On Oct. 21 this meteor shower peaks
6. During October this planet rises around 9 p.m
7. During October Venus can be seen in this sky.

Answers on page 14
No peeking!



The Sky This Month

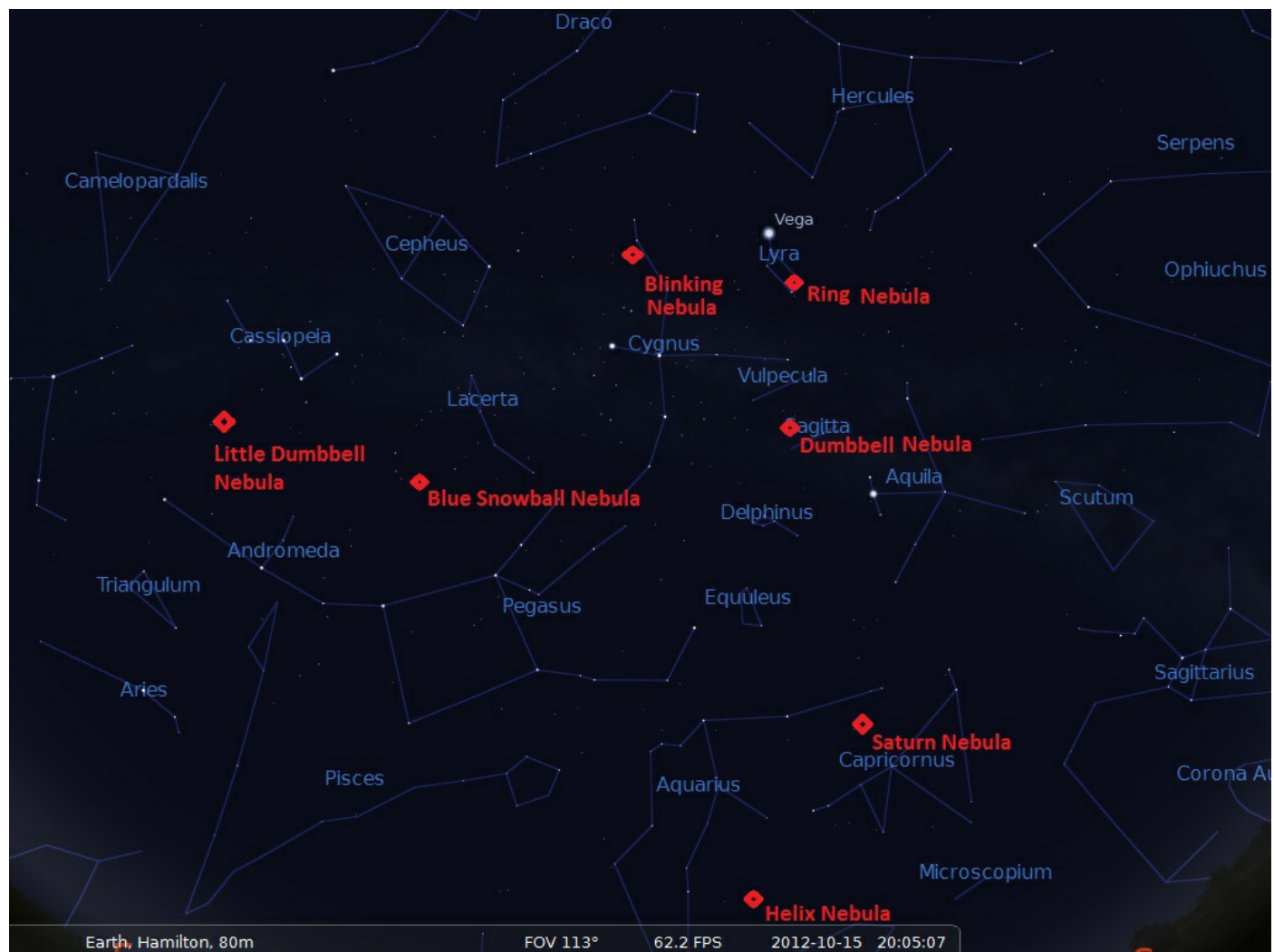
- October 3 - Conjunction of Venus and Regulus (early morning)
- October 4 - Jupiter and Moon 5 degrees apart
- October 8 - Last Quarter Moon
- October 12 - Venus 6 degrees left of Moon (rise together)
- October 15 - New Moon
- October 18 - Moon 2 degrees above Mars (right after sunset)
- October 21 - First Quarter Moon
- October 29 - Full Moon (Hunter's Moon)

Under the Sky

In the September *Sky and Telescope* magazine, there was an interesting article by Sissy Haas that explores the limits of double star observing. Haas is a long time double star observer and author of 'Double Stars for Small Telescopes', a fine book on the subject. Her article encourages observers to test the limits of their telescopes by observing very close double stars of differing magnitudes, in an attempt to determine some kind of guide or rule of thumb. I took up the challenge and observed mu Cygni, a pair that is separated by only 1.9 arc seconds. I used my 90mm refractor (affectionately referred to as 'small but mighty') and as a comparison, the pairs in Epsilon Lyrae (the Double-Double) are 2.1 and 2.4 arc seconds apart. I can split the pairs in the Double-Double without difficulty, so even though this one that I observed in Cygnus is tighter, it shouldn't be that hard, except for the fact that this pair has a significant magnitude difference. Being an uneven pair, at magnitudes 4.7 and 6.2, they are much more challenging than an even pair, like those in the Double-Double. Even so, my little scope split the pair and I was very pleased (as were, I hope, the other observers that night that I dragged away from their observations and enthusiastically encouraged to come look through my scope!). Encouraged by this, I am lining up an even harder pair. How far can my small but mighty refractor go? Only one way to find out! If you want to participate in this project, the article and list of test stars is available online, or contact me and I'll send you the list.

The same night at Binbrook Conservation Area, the club's dark sky observing site, saw Jim Wamsley touring the planetary nebulae visible this season. I was surprised by how many he was able to pick up, but considering that planetaries have a fairly high surface brightness, it means that many of them are visible in even small scopes (Jim was using his fine 8" Schmidt-Cassegrain). Although only 4 Messier objects are planetaries, 3 of the 4 are easily visible right now. They are the Dumbbell (M27), the Ring (M57) and the Little Dumbbell (M76) (can you remember the fourth?). Aside from these Messier objects, there are many other prominent planetaries this season, including the Helix (NGC7293), the Blinking Nebula (NGC6826), the Blue Snowball (NGC7662) and the Saturn Nebula (NGC7009). Aside from their high visibility, even in small telescopes, the other thing you have to love about planetaries is that they all have such great names! Remember though, that even though they're bright, they're small, so use high magnification to pick them out from the other stars in the same field. A nebula filter helps a lot if you have one. I prefer a narrowband filter like the Lumicon UHC (there are lots of brands that do the same thing), but that's because I have a small scope. For people with a larger aperture (Continued on [page 11](#))

The Sky This Month (continued)



the OIII (oxygen 3) filter is very well suited to planetaries, but it does provide higher contrast so objects look a little too dim when using an OIII filter in my small scope. Filters like broadband nebula filters and narrowbands like the one I mentioned filter out specific wavelengths of light (like those most common in light pollution and let through others (like those produced by nebula). The result is an increase in contrast between nebula and the light-polluted sky. Although they can produce very pleasing results, remember that they do filter out light, so even if an object looks more contrasty, it will still be dimmer than an unfiltered view. Also, because stars produce light at all wavelengths, cluster and galaxies almost always look worse in a filter (because their light is filtered out too). These filters are just for nebulae, and even then not everybody likes them. I do, and next time you're out observing with me feel free to try one of mine out in your scope. Touring the planetary nebulae is a marvelous way to spend an autumn evening with your telescope.

If there is a highlight this month, it must be the pairing of Venus and Regulus. Start looking now as they come to their closest approach on the morning of October 3rd. Then continue to watch over the next couple of days as they slowly pull apart. At only half a degree apart on Wednesday morning, they will be closer than the width of the moon. They will make a lovely naked-eye pair, and a fine photographic target.

(Continued on [page 12](#))

The Sky This Month (continued)

If getting up early for the Venus/Regulus paring isn't your style, then stay up late and catch Jupiter as it rises high into the late night. Located in Taurus, it rises in the late evening and by midnight it is well up in the east. By 4am it is nearly overhead. This will be a fine season to observe Jupiter, as it is so well placed for northern hemisphere observers like us. Jupiter season is just beginning, but start now so you can enjoy the ongoing show of wandering moons and changing bands on this largest and most entertaining of planets.

As always, feel free to send me any observing reports, photos, questions, or comments that you would like to share with your fellow members. I'm always happy to hear about your observing experiences. See you out there!

John
observing@amateurastronomy.org

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The Real Beauty of the Venus Transit by Mike Jefferson

Our newsletter, "Event Horizon", is undoubtedly the finest amateur astronomical society newsletter in Ontario and probably in Canada and the United States, as well. It is typical of many of such publications in that it carries astronomical news, observing information, cartoons, puzzles and upcoming events for the HAA. Where it falls down, in this writer's opinion, and like most of the others in this genre, is in the area of scientific writing.

That amateur astronomical societies should engage in a fairly large degree of public service, there can be no doubt. However, that is not the sole 'raison d'etre' for their existence. They are also a personal engagement with the beauties of the night sky and the features of nature for each of the membership. This should include the act of participating in an individual scientific project, a group collaboration or a collection of data that will support a thesis or verify an already-known principle or past discovery.

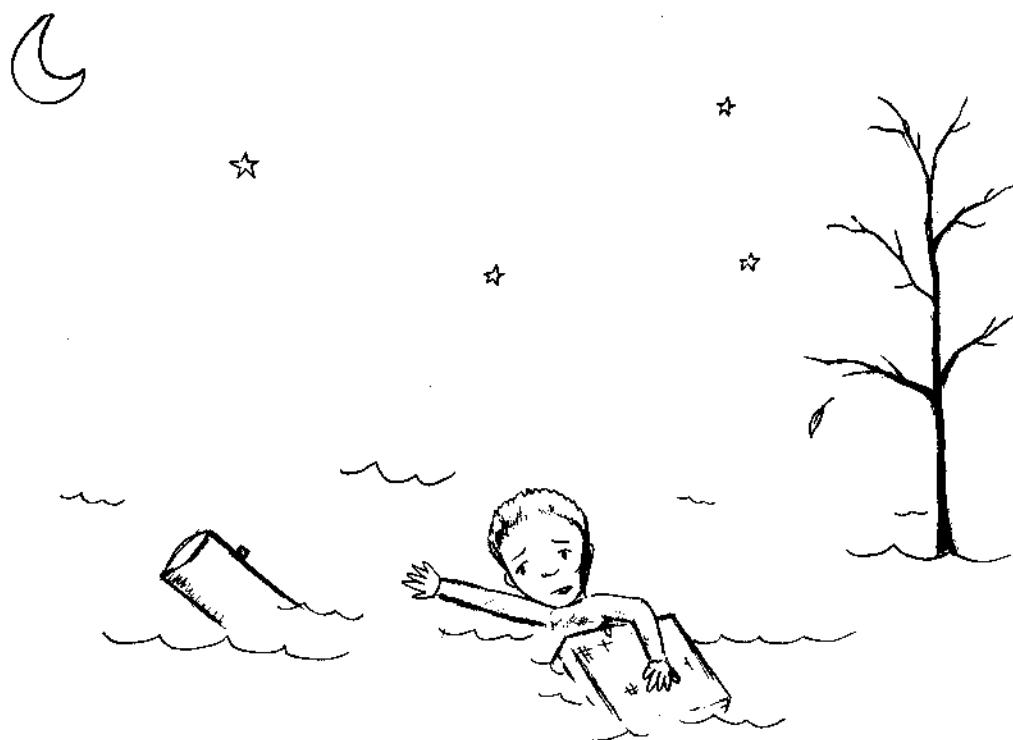
This brings me to the point of this short essay, which is to praise the excellent paper about the recent Venus Transit that Vladimir Pariev contributed to September's "Event Horizon". His cooperation with astronomical colleagues in Krasnoyarsk, Russia, images from HAA members and some collaboration with Doug Black allowed for a good value of the sun's distance from Earth through the combination of mathematical calculations combined with a parallax measurement (as noticed between Krasnoyarsk and Hamilton). HAA members and Krasnoyarsk astronomers provided the necessary images for the project and Vladimir provided the technical and mathematical expertise. My only 'downer' in this is that I got only one very poor image due to the fact that I tried to do handheld, afocal imaging - not a good idea for this activity. However, I had no mechanical means with which to secure camera to solar telescope. Visually, however, the telescope proved to be excellent and we watched the event until the sun set!

In the recent past history of the HAA, founder Doug Welch configured a long-wave radiotelescope to track the sun's x-ray output. Mike Spicer has completed activities on observing globular clusters, planetary nebulae, variable stars, double stars, the rings of Saturn and other objects in the not-too-distant past. Not very long ago, I engaged in survey spectra work and later completed a second long-wave x-ray radiotelescope for a Stanford University project which also resulted in a poster paper for The Society for Astronomical Sciences in California. Today, the same work continues with shortwave equipment and daily satellite data. Groups in the HAA have engaged in occultation timing projects in recent years. Today, we have people building and configuring their own instruments for observation. High energy and gravitational-wave data analysis can be tackled through such projects as "Einstein at Home" and I have been involved with this for nearly a year now. My intention is to return to spectral analysis by moving into the production of stellar energy curves through digital imaging.

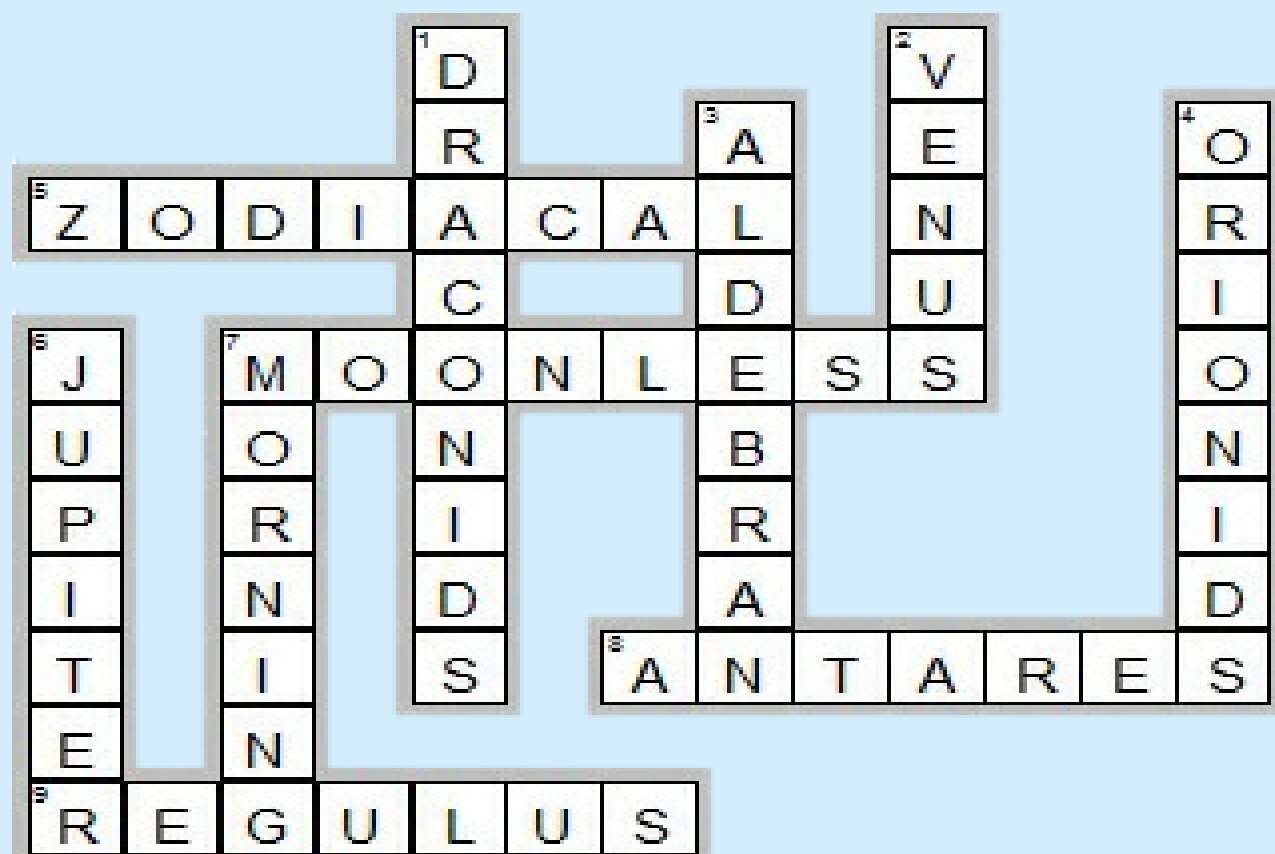
There is much scientific work that any HAA member can participate in, if one is willing to devote the interest and time to do it. And our thanks has to go out to Vladimir for showing us how to do this and the real 'beauty' of the Venus Transit of June 05, 2012.

Fall Observing

What happens when you forget your dew heaters!



Answers to Astronomy Crossword on Page 9



UPCOMING EVENTS

October 12, 2012 - 7:30 pm Annual General Meeting at the Hamilton Spectator Auditorium. Speaker will be John Gauvreau who will take us on a Tour of the Universe.

October 27, 2012 - 7:30 pm *new* Astrophotography Group meets in the basement of the Centurion Apartments building at 75 Main St., Dundas. Meetings will be informal opportunities for members to ask questions, learn techniques, discuss equipment, etc. Contact Jim Wamsley if you need more info or directions: 905-627-4323.

November 9, 2012 - 7:30 pm General Meeting at the Hamilton Spectator Auditorium. Our speaker will be Don Pullen whose topic is entitled Radio Astronomy.

2011-2012 Council

Chair	Bob Christmas
Second Chair	Don Pullen
Treasurer	Steve Germann
Membership Director	Matthew Mannering
Observing Director	John Gauvreau
Event Horizon Editor	Ann Tekatch
Webmaster	Don Pullen
Recorder	Mike Jefferson
Secretary	Jim Wamsley
Public Education	Mario Carr
Councillors at Large	Harvey Garden Brenda Frederick Joe McArdle Doug Black David Tym Keith Mann

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