Hamilton Amateur Astronomers

Event Horizon

March 2006 Volume 13 Issue 5

Astro Poetry

In hopes of seeing the comet Pojmanski
I ran outside in my pajamski
But instead of the comet I wanted to see
All I saw was poor transparency ;(

Glenn Muller

I too was up on Sunday morn
A little cold, a little worn;
Set up the telescope f/10
To see Jupiter's moons again.

Ganymede distant from Jove's disk,
Io dim as into shadows frisk'd
Nu Librae hanging like a pendant
Just south of Jupiter resplendent.

The whole sight beauteous and bright
Though shimmering in the aery light,
Even clear air can be very mixed
when on a starry sight you're fixed.

Mike Spicer

The Cranky Curmudgeon has a Cure for Cancer

by Bill Tekatch

Yes this is absolutely true. I do believe I have a cancer cure. It takes two weeks and costs less than $100. If you are interested let me know. I suspected that I had a cure as early as 2003 but was not sure and could not believe it. Gradually I became more aware that it may be true and was surprised when some research results I saw appeared to explain how it worked. But I held off telling anyone. Many years working as a researcher gave me a deep respect for the scientific method. Conclusions simply can not be expressed without objective statistically significant data to back them up. Sometimes scientific papers have conclusions that are wrong, but it is not common. How could I tell anyone about a cure for cancer that was not based on more than anecdotal evidence with logical reasoning linking it to some other evidence of a mechanism? So I kept my mouth shut, and gradually heard of friends and family members one after another succumb to cancer. Then when I heard of the unexpected cancer of my uncle and his quick passing, I was forced to re-evaluate my reservations. Of course I could be wrong but I am quiet no longer.

So what does my cancer cure have to do with cosmology? It is an illustration of the dilemma I faced trying to reconcile the conflicting goals of dissemination of knowledge versus ensuring the good quality of the discovery. Cosmology is a peculiar science in that it is like politics, religion, and economics. It is often impossible to set up a randomized double blind experiment to prove a theory. Observations are made and theories proposed. More observations are made and the theory changed to fit the observations. But perhaps too often for my liking the observations are interpreted to fit the theory. Looking at cosmology and life in general, I realize that we constantly make trade-offs, compromises, and decisions based on far less than scientific method standards. Luck and random selection have done humans pretty well so far.

Our increase in understanding of the world around us and the advancement of technology is a magnificent demonstration of the power of the scientific method. Setting up an unbiased experiment, obtaining results and being able to estimate a degree of confidence with statistical precision is key to our standard of living. But can truths exist or can something be correct even if a double blind experiment has not proven it? Of course it can. Truth and knowledge exist before we find it. Perhaps in some ways the scientific method simultaneously promotes advancement and yet impedes it. Experiments begin with the proposal of a purpose or aim. My purpose is to save lives and in the process this will prove this cure for cancer works.

Sometimes it is just a matter of perspective.

Bill Tekatch is a founding member of the HAA, ran the Cosmology Discussion Group for some time, and has written several articles on cosmology.

Email Reminder notice

We send email reminders before each meeting which describes the location, time and topic of the general meeting.
If you're not on the list, make sure that you receive your reminder by sending a note to:
publicity@amateurastronomy.org

An Offer

Thinking of buying your first telescope but wondering what kind to get? Before you buy, consider this offer from Mike Spicer: a "loaner" 5 inch telescope with electronic alt-az controls. The scopes are lightweight, easy to set up and very easy to use. Mike is offering newer members of our club one of these telescopes to try out for a month or so. Interested? You can reach Mike by email at deBeneEsse2001@AOL.com or by phone at (905) 388-0602.

Articles submissions

The HAA welcomes your astronomy related writings for the Event Horizon newsletter. Please send your articles, big or small, to:
editor@amateurastronomy.org
The submission deadline is two days before each general meeting.

HAMILTON AMATEUR ASTRONOMERS

Event Horizon is a publication of the Hamilton Amateur Astronomers (HAA).
The HAA is an amateur astronomy club dedicated to the promotion and enjoyment of astronomy for people of all ages and experience levels.
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Submissions to the web site or newsletter are welcome, and may be edited for size & content.

Chair's Report

by Glenn Muller

If you own long johns you already know that winter observing requires way more effort than a summertime session. Once you've bundled up and set-up you don't need to spend whatever time is left, staring penguin-like at the sky, wondering where to start. Veteran observers will often cruise around revisiting familiar favourites but, with frigid temperatures adding value to minutes at the eyepiece, a pre-made observing plan can be worth its weight in gold.

I call my plan a "hit list" and find candidates in astronomy books and booklets, sky charts, computer programs, periodicals like *EH* and *S&T,* and my own growing log of past sessions. Having maintained a log for several years it is now my most relevant resource since each recorded item is viewable with the equipment I have.

I select objects from each of the main food groups: galaxies; nebulae; planetaries; globulars; etc. as well as from each quadrant of the sky in case one area should suffer from some variation of poor visibility. I prioritize according to when each will be best placed during the session, but not necessarily by Right Ascension since the location of some objects can offer a natural progression for star hopping to others, nearby.

This month, HAA members can look to one old list and two new ones when selecting targets. The "old" list is the venerable Messier Catalogue which gets dusted off each Spring for the Messier Marathon. The new ones consist of the HAA Observing Database (HAAOD), and the Galactic Morphology Observing Challenge (GMOC).

Compiled over the past several months by HAA Observing Director, Greg Emery, the HAAOD contains over 300 objects particularly suited to the backyard observer. Broken down into degrees of difficulty, and containing many descriptions, this comprehensive list should keep the most ardent astronomer busy for a long time. It is available for download from the Club's website

The GMOC, on the other hand, is a relative "quickie" based on last month's presentation of *Hubble's Tuning Fork.* Containing only 15 different galaxies, mostly in Leo and Virgo, this challenge can be a short diversion during the next few weeks while you hunt down Charles Messier's finest. The GMOC list can be found within this issue of the EH.

Once you've successfully completed a list, why not submit a record of objects found, equipment used, and dates viewed to our Observing Director. Upon receipt of your log, the HAA will not only provide you with a Certificate of Merit but also nominate you as the next head of NASA.

Okay, maybe not that last bit, but if certificates provide an impetus to observe more and keep records then the HAA is quite happy to provide them.

While the weather still dictates when we open the Binbrook Conservation Area (BCA), the HAA will definitely be at the Binbrook Fairgrounds Agricultural Center on Sunday, March 19^{th}, from 1– 6pm. In support of the *Ontario Birds of Prey,* this indoor event will feature organizations that make use of the BCA. The HAA will have an information booth featuring a slide show and telescopes, and some local raptors will be on hand (literally).

The Fairgrounds is on the right-hand side of HWY #56 just before the stoplight in Binbrook as you drive south from Hamilton. Perhaps we'll see you there.

Clear skies!

Glenn invites your comments on these topics or any aspect of the club. He can be reached via:

chair@amateurastronomy.org

Activities summary

2006-03-04 Orion, Pleiades, and M65/M66 images from Binbrook

by Tim Harpur

Alright, where were all the astronomers? Finally a beautiful night at Binbrook, and only Glenn, Gail, and myself showed up. Oh well, despite a few clouds at the beginning, it cleared up nice and with only a sliver of a moon it was a good sky.

With the Binbrook Conservation being relatively light pollution free I was able to do longer exposures at higher ISO - and also didn't require so much filtering - which seriously damages those nice faint fuzzies. Only about half the shots turned out useful - the rest were plagued with double images caused by the occasional gust of wind we were getting. I have shots of (of course) Orion, Pleiades, and M65/M66 galaxies. So far I have processed the Orion shots - I tried something different - I took sets of images at 4 different exposure : 32s @ ISO 1600, 32s @ ISO 800, 10s @ ISO 800, and 2.5s @ ISO 800. I aligned and stacked the 32s exposures together, 10s exposures, and 2.5s exposures - then merge the images together in Corel Photopaint 10 - thus allowing to reveal the faint outer wisps while not over

exposing the central nebulae with the Trapezium stars. I learned something new last night - make sure the T adaptor is on tight as the slightest play will cause the images to rotate everytime the camera is tinkered with - I spent a good 2 hours rotating each set to match as they were all off by a couple of degrees.

All images were taken using a Canon Digital Rebel XT mounted parfocal on a Meade 10" SN LXD75. Images were process in Corel Photopaint 10, Canon Digital Photo Professional, and Registax.

Tim Harpur, has held an interest in science and astronomy from a young age, and studied science (including courses in astronomy and astrophysics) at the University of Waterloo and holds a BSc. Since joining the HAA last fall, his interest in astrophotography has been rekindled with his new Meade 10" SN LXD75 (GT) and Canon Digital Rebel XT for the imaging. He spends a lot of cold nights alone with his new scope - but enjoys the results!

2006-03-03 A Binbrook Report

by Glenn Muller

I don't remember inviting the clouds but they rolled into Binbrook about the same time we did. The forecast 30kmh winds blew them over the park in batches, forcing us to shelter by the picnic pavilion and make do with targets of opportunity. Tim Harpur arrived just as Gail and I had set-up, and he wasted no time putting his nice new 10" Schmidt-Newtonian on the also nice, also new Atlas mount. What a good-looking combination! While I took advantage of the my dobsonian's fast slewing capability, Tim took images of the Moon, Pleiades, and Orion Nebula. A new object for my log was NGC 2158, a small open cluster that is usually overlooked because it is rather faint and nearby M35 isn't. Out of the wind, the sub-zero temps didn't seem too bad and by 9:15pm, the sky had pretty much cleared. We continued observing and imaging for about another hour; Tim taking several exposures of galaxies M65 & M66, and M1 the Crab Nebula while Gail & I checked out the likes of M96, M79, M44, M48. When the the cold began to creep through boot soles we finished off with a look at Saturn then packed up to a coyote serenade. Not a bad night at all!

...AND THE HEAVENS WERE OPENED!

by Mike Spicer

Monday 27 February will mark the turning point in our observing weather, mark my words. The clouds descended as soon as my Nexstar 11 GPS scope was packed up for return to the factory in November... and they have lifted now that the scope has been returned in perfect condition!

I set up the 11" GPS in alt-az mode on the patio and marvelled at how bright the images were - various galaxies (M65, 66, 51, 95, 100) visible in a 32mm eyepiece from the city. The new Sky-align controller was fabulous - no more peeking toward Polaris, just center any three bright objects and the controller can center anything after that! Incidentally, the Sky-align controller also worked well on the CG-5GT mount.

Sure, it was nippy at -10°C with a bit of a wind, and the seeing was a little shaky... but the transparency was superb and tonight was one of those times Saturn's little moon Mimas was visible at low magnification (a 19mm Pan)

I'm sure many of you were looking at Saturn tonight - riding high above the polluted air so early in the evening. It appeared to have more moons than usual... Dione, Enceladus (easy!), Tethys and Rhea aligned N-S to the E of the planet, and then another 10th magnitude object making a triangle with Tethys and Rhea... star TYC1395-2414-1 and just E of the star, 8th magnitude Titan. The Cassini Division visible all the way around

Saturn and the shadow of the planet on the rings shifted to one side now that the planet is past opposition.

I put the DSI camera on the Nexstar to take a few 15 second exposures of the Eskimo Nebula, remembering that the scope was in alt-az and hoping the Autostarsuite software would correct for that. I'll set up the wedge tomorrow and likely image from eq mode, I think. One less thing to worry about.

It's great to have the favourite scope and clear skies, too!

2006-02-26 Orion by Tim Harpur

by Tim Harpur

The weather was beautiful last night - I hope you didn't miss out. By 9:00pm the wind had cut down and the sky was almost cloudless - I was still viewing from a light polluted area though. The temperature seemed rather warm - more so than expected, and I was out until 11:30pm imaging. After setting up my 10" Meade Schmidt Newtonian OTA on an LXD75 GoTo mount and letting it cool down I checked the collimation with my new laser collimator and found it to be accurate and unaffected by the car ride over (I had used the laser collimator to collimate the scope before heading out). A quick polar alignment and I was good to go. I planned on spending most of my time imaging so after a quick view of Orion through the eyepiece I removed the 1.25" focuser tube and replaced with my new T ring adapter for my camera - what a difference a collimated scope and imaging parfocal makes! I took some new shots of Orion that far exceeded anything I had taken previously - I don't mean to be over exposing the Orion Nebula (just kidding) but I'm using it as my baseline for learning astro-photography - and you should still check out these new images as they are that much superior to previous attempts. Then I turned my attention on a few star clusters - the Pleiades, M37, and M38. Saturn was sharp but small in the fast wide field optics of the SN - looks like a good 2" barlow is required for decent planetary pictures. I will be adding the images mentioned as I get them processed.

The first of many images to come are the Orion set:

Orion Nebula Feb. 25, 2006 Meade 10" Schmidt Newtonian with Canon Digital Rebel XT mounted parfocal.

19 images x 15s @ ISO 1600, 4 images x 15s @ ISO 800 processed with Registax and Corel Photopaint 10.

Saturday, February 25, 2006

by Glenn Muller

Trying to observe, last night, was a lot like trying to cross a busy street. Though the low level winds had subsided, the upper level continued to push through batches of clouds that had me swinging the scope all over the sky. Despite that, the transparency over Grimsby was quite good and the sight of Saturn sitting adjacent to a pretty combination of stars and moons made the effort worthwhile. The sucker holes also afforded me brief glimpses of Nebulae M42, M43, M78, NGC2071, and open clusters NGC2244, NGC2112, and NGC2232. A nice comparison, right now, is Aldebaran and Mars. Exhibiting nearly the same colour and brightness, if you observe Aldebaran first, the roundness of Mars is a good example of what to look for when identifying Uranus and Neptune among their neighbouring stars. I just had time for a quick visit with M81 and M82 before the "busy street" turned into a parking lot but it was nice to finally do some observing.

Sunday Night Opportunity, 19 February Good Enough To Meet The Challenge

by Mike Spicer

Winter has arrived a little late this year and the weekend has gone sub-zero with winds howling around the home observatory. Still, the opportunity to take images from inside could not be passed up - to meet the challenge of "remote imaging", so-to-speak.

Saturn is an easy target in the evening, but as night deepens and Leo reaches the meridian, hundreds of deep sky objects are available. The seeing was very poor (about 5 arc-seconds) with a great deal of haze and a bright waning moon... but the go-to on an older LXD-55 worked well despite the cold and controlling operations from inside made imaging comfortable.

Big scopes are very nice, but a small refractor captures a wide field of view - about half a degree. I used an Orion ED80 and started by capturing images of M65 and M66 in Leo. By early morning I was imaging galaxy M100 (NGC4321) through some deep haze. The supernova SN2006X continues to brighten, appearing mag. 13.4 in a 20 second DSI image.

Jupiter will soon commence its retrograde motion against the background stars of Libra - but for the next month it will be very close to 5th magnitude star Nu Librae. I caught an image of Jupiter's 4 moons spread out in line with the star... an interesting "conjunction" to say the least.

I drove out to the Binbrook Conservation Area... some remarkable changes there, including a lot of cement parking regulators and four large garden-type sheds 8 x 8 x 8 feet... would make pretty nice roll-off observatories...

Fabulous Weekend Observing 18 Feb

by Mike Spicer

Wow, when it clears up, friends, it's really clear! Saturday night 18 February a c-c-cold front moved in and the clouds disappeared. It was a little nippy at -14°C with a wind chill of -22°C, but the telescope worked beautifully for visual observing and imaging.

Saturn was first on the list. In the finder you could see the planet and Titan very close to the Beehive, M44. Again tonight the planet had an almost angelic white colour. The Cassini division was quite visible in the rings, even though the seeing was poor (about 4 arcseconds). Tonight you could see Iapetus at magnitude 10.8 just N of the planet, not far from Titan to its W. Rhea and Dione were easily seen SE of the planet, although Tethys was lost in the glare from Saturn.

I was hoping to get images of M100 and its supernova and practised on M65 in Leo. The mount worked well but the DSI camera and laptop were slow in the cold and by the time I had images of M65 I was so cold that M100 seemed beyond reach. I turned to Jupiter instead.

Jupiter is so close to 5th magnitude Nu Librae that the star appears to be another moon of the planet, tonight just a little farther than Ganymede. Over the next two weeks Jupiter will slow down and then begin retrograde motion, so that it hangs very close to Nu Librae until mid-March - a beautiful sight.

I hope you all got out observing tonight. I'm sure you'll want to be up at 6 a.m. tomorrow to catch a glimpse of RS Ophiuchi in binoculars before the nova fades below magnitude 7.

Michael Spicer, a Hamilton attorney, and past HAA councilman, is an avid observer/imager who owns various telescopes and also published various "observing projects" on: double stars, variable stars, Saturn, Jupiter, globular clusters and planetary nebulae.

deBeneEsse2001@AOL.com

2006-02-14 Recent outburst of RS Ophiuchi to naked eye levels

by Stephen Kinsella

I have received an update to the recent outburst of RS Ophiuchi to naked eye levels (mag 4.8). This recurrent nova has not outburst to naked eye levels since 1985. If it dims according to past observations, it should lose about 0.1 magnitudes a day for about a month, returning to normal in about 110 days.

For those that may want to look the star up with planetarium software, Starry Night Pro does not list RS Oph in its variable database. However a similar star in the vicinity with the same J2000 co-ordinates is TYC5094-550-1.

According to the AAVSO 'A' level chart (1744-06A), RS Oph is almost midway on an imaginary line between the globular cluster M14 and M16, the Eagle Nebula. It should be possible to frame M14 with RS Oph in a pair of 7x35 binoculars!

The original Special Notice #6 concerning RS Oph is listed at this link:

`http://www.aavso.org/publications/specialnotice/6.shtml`

The update was released as Alert Notice #335 and is available at this link:

`http://www.aavso.org/publications/alerts/alert335.shtml`

Charts for this recurrent nova are available at this link:

`http://www.aavso.org/cgi-bin/searchcharts3.pl?name=rs_oph`

Variable star observing is a fun and rewarding aspect of amateur astronomy and is one of the many ways that amateurs can contribute to real science. Unlike supernova hunts or astro-imaging, it does not require a great deal of hardware to start; a pair of binoculars or small telescope will do just fine.

Stephen Kinsella, although a relative newcomer to the HAA, has had a life long interest in astronomy and cosmology. Having recently taken early retirement, he is currently taking time off to pursue interests in astronomy and computers. He can be contacted at skinse@hotmail.com

2006-02-11 An Exciting February Meeting of the HAA

by Mike Spicer

Six latecomers to the February 10th meeting of the Hamilton Amateur Astronomers missed out on free tickets to the door prizes and had trouble finding seats, as almost 50 members and guests filled the Teamsters Hall. Cathy Tekatch just shook her head at us and mouthed "7:30 cutoff, sorry".

Our Observing Director Greg Emery started off promptly at 7:30 with a detailed review of observing objects in February skies, although the professor gave no guarantee of clear nights and was himself, off with his lovely wife to a well-deserved vacation in warm southern parts, armed with excellent binoculars and a CD of Sky Shed plans (he was the big winner in this month's draw).

Mike Jefferson gave part 2 of his talk on spectroscopy, using an a-v presentation and several photographs. His explanation of the equipment he uses, and what the little black bands in the photos meant, was helpful to many in the audience.

The highlight of the evening was Ann Tekatch's a-v presentation on her family's construction of a backyard observatory using Sky Shed plans. Ann is a humorous and experienced speaker who doesn't present often enough; her musing on family relationships was worth the price of admission. We're all waiting for an invitation to look through her A-P scope in its new home.

Glenn Muller wound up the meeting with an informative a-v presentation on galactic morphology entitled "Hubble's Tuning Fork" followed by a question-and-answer exchange, drinks and relaxation at the local East Side Mario's restaurant. Your reporter submitted some photos of the meeting to our illustrious web master for posting. Thanks to all who came out and to Ray Badgerow, Ann Tekatch and others who contributed prizes to the monthly draw. What a great club!

2006-02-09 "Quo ducit Urania", you wonder?

by Mike Spicer

Observer Note - be on the lookout for the asteroid Urania!

Why not apply some real observing to the oft-used phrase "Quo ducit Urania"? Little 11th magnitude asteroid Urania is not far W of Jupiter in the constellation Libra, visible in the early morning before dawn. 200 million miles away from us now, it shows a disk of 1.5", rather like one of Jupiter's moons.

On the morning of 22 February Urania will occult (pass over) NGC 5744, a distant face-on spiral galaxy that sits in the centre of a triangle of 12th magnitude stars in Libra. The galaxy is 3' in diameter located at 14h 44m, -18° 29' and this will be an exceptional imaging opportunity for those with high-power imaging capability.

Urania will slow down and begin retrograde (W) motion the week of March 6-15th, arching around 8th magnitude star HIP72202 and less than 30' from a beautiful little galaxy, NGC 5757 for a great imaging opportunity!

NGC5757 is a face-on barred spiral 2' in diameter at 14h 48m, -19° and imagers should be able to capture the asteroid and 13th magnitude galaxy in a 30' wide shot (DSI with a refractor or using a Celestron SCT with Fastar optics, for example).

Clear Skies Wednesday Night, 8 Feb 06

by Mike Spicer

Observer's Report:

The pessimists among us were predicting clear skies right around the full moon next week, but a cold front swept away the clouds tonight and I hope you were out observing!

The evening started with a fabulous Ring around the (Gibbous) Moon although the Clear Sky Clock predicted excellent seeing after 1 a.m. I got some shut-eye until then, with expectation of observing Jupiter and the Venus (it has such a cute sliver of a crescent these days!).

Jupiter did not disappoint, though only 37" in diameter. The planet is moving E toward Nu Librae, a 5th mag star. On March 2-3 as Jupiter begins its retrograde motion, it will dangle just 3' N of that bright star before it starts moving W toward opposition.

Binoculars this morning at 3 a.m. showed Io and Europa only 1' and 2' E of Jupiter's disk, with Callisto 8'E and Ganymede 4'W of the planet. A telescope revealed a 10.1 magnitude star, TYC 6168-798-1 in line with the moons and just 1' W of Ganymede at 15h 03m, -16°. That star is over 3,000 light years away and deserved a look - if our Sun were that far off, it would be beyond the light grasp of almost any amateur telescope (plus, it would be a lot colder than the present -12°C in my backyard!).

Some interesting early morning Jupiter events coming up:

On March 1st you can watch Ganymede and Europa appear to rush past each other; on March 2nd, Io and Europa also appear to "almost collide".

If you want to image, the Not-So-Great Red Spot is on the meridian at about 5:30 a.m. on March 3rd.

From 3:30 - 5 a.m. on March 4th Ganymede will brush behind Jupiter's polar region.

March 5th, because Jupiter is far from opposition and casts its huge shadow W of the planet, you can watch Io approach Jupiter and dim from mag 5.5 to mag 9.5 as it enters the planet's shadow at 3:20 a.m. while still 20" from the disk! Io passes behind the disk from 4:30 and emerges on the E side of the planet (mag 5.5 again) just before dawn.

Finally, on March 6th - another great imaging opportunity - Io will transit Jupiter, shadow preceding it, the little moon racing past the GRS. Io begins transit at 1:47 a.m., the shadow exits just before 3 a.m. while the GRS is on the meridian, and Io speeds past the GRS to exit at 3:54 a.m. - a race worth watching!

Let's make the most of the clear nights we do get, right?

Messier Marathon *by Greg Emery*

In March of each year amateur astronomers plan for the Messier Marathon. These detailed plans, in my personal experience, have a high success rate for creating snow or rain. So, once again I will plan, and hope.

The Messier Marathon occurs in the time around the Equinox. The arrival of Spring in the Northern Hemisphere places the Sun in the constellation Pisces. The position of the Sun is the key to the marathon. When you map all the Messier objects in the sky, there is a gap of 1 to 1.5 hr of Right Ascension in which no objects are placed. When the sun is in this gap, it becomes theoretically possible to see all of the 110 Messier objects in one go.

If you are serious about attempting the marathon, then you need to have your scope ready to go by about 1800. The sun will be setting about this time. Very early on you need to bag M29, M39, M31, M32, M110, M33 and M52. From here you will then work on to M45 and the clusters and nebulae of the Winter Milky Way. After this you will then be faced with the daunting task of the numerous galaxies that are to be found in Leo, Canes Venatici, Coma Berenices, Virgo and Ursa Major.

The good news is that you are past the half way point. Rising in the east will be the spring/summer constellations and Messiers Objects. Globular Cluster, Open Cluster and Nebulae.

Your in the home stretch now, keep looking at Messier objects until you hit M15 in Pegasus – now it is breakfast time.

The optimal night for the Marathon is always the new moon closest to the equinox. The optimal weekend dates are Friday March 24 and Saturday March 25. This old moon will be in Capricornus with about 21% illumination. M30 and M75 should still be viewable. The following weekend, the moon is pretty much on M45.

A long list of must haves for the marathon include coffee, water, snacks, food, sleeping bag, blankets, alarm clock, understanding spouse, list of object order, star maps, extra batteries.

Good Luck and Good Hunting.

M29,39,31,33,52 /sun in Pisces /moon rises 525 21% ilum.

Upcoming Events

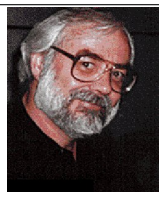
The next HAA General Meeting will be held at the Hamilton Spectator Building on Friday April 7, 2005 7:30pm. More details here:
`www.amateurastronomy.org`

Adam Block CCD Imaging Workshop in Buffalo New York on May 6 & 7.

Adam started the Advanced Observing Program at Kitt Peak National Observatory and was its lead observer for many years. His images have and continue to grace the pages of Sky & Telescope, Astronomy, NASA Picture of the Day, his work can be seen at `www.caelumobservatory.com/bestof.shtml`

This hands-on workshop is limited to 20 people. You bring your laptop and actually work on data supplied by Adam as he provides instruction. The cost of the workshop is $425 for both days and runs from 9:00 am to 5:00pm each day.

While the use of Maxim DL and Photoshop are heavily emphasized during the workshop, significant additional information about the use of programs such as Registar, CCD Sharp, Noise Ninja, Ron Wodaski's Debloomer, Mira AP, Russ Croman's RC-Astro Console, etc. Visit: `www.caelumobservatory.com/ccdworkshop.html`



The Royal Astronomical Society of Canada Niagara Centre proudly presents Terence Dickinson on Saturday, April 8, 2006 12th Annual Banquet at Delphi Hall (Beside Chatters) on Portage Road in Niagara Falls, ON at 5:30 PM for a fee of $45.00/Person Before April 1 or $50.00/Person After April 1.

For tickets, contact Joyce Sims 905-262-5276 also visit `rascniagara.gotdns.com`

Galactic Morphology Observing Challenge

by Glenn Muller

Last month's presentation on Hubble's Tuning Fork, outlining galactic morphology, prompted comments that it would make for an interesting observing list. So, for those wanting a diversion from the traditional Messier Marathon, here is challenge that can, conceivably, be completed in one or two nights during the early Spring.

Apart from the NGC objects, which I selected from reports by others with "small" scopes, I have viewed each target listed with my 6" f8 reflector telescope from local observing sites. Although there exists some disparity among sources, regarding the particular classification of certain galaxies, I feel this list provides a good representation.

The observer must realize, however, that small to medium sized "backyard" scopes may not always resolve the distinguishing features. The reward will be in completing the hunt - with "bonus points" for spotting/recording noticeable differences. I'd be interested to know how you do so feel free to send a report to `chair@amateurastronomy.org` .

More information on galactic morphology and Hubble's Tuning Fork can be found at:
`cas.sdss.org/dr4/en/proj/advanced/galaxies/tuningfork.asp`

Type	Designation	Constellation	Right Ascension	Declination	Queue
E0	M89	Virgo	12h 36m 00.90s	+12° 30' 56.4"	10
E1	M105	Leo	10h 48m 07.77s	+12° 33' 01.0"	3
E2	M60	Virgo	12h 44m 00.87s	+11° 30' 57.2"	7
E3	M86	Virgo	12h 26m 30.97s	+12° 54' 55.7"	12
E4	M87	Virgo	12h 31m 06.95s	+12° 20' 56.0"	11
E5	M59	Virgo	12h 42m 18.88s	+11° 36' 57.0"	8
E6	NGC3377	Leo	10h 48m 01.83s	+13° 57' 01.1"	4
E7	NGC3115	Sextans	10h 05m 30.65s	- 07° 44' 49.8"	1
S0	M84	Virgo	12h 25m 24.98s	+12° 50' 55.7"	13
Sa	M65	Leo	11h 19m 13.54s	+13° 02' 56.9"	5
Sb	M66	Leo	11h 20m 31.52s	+12° 57' 56.8"	6
Sc	M51	Canes Venatici	13h 30m 09.75s	+47° 10' 04.4"	15
SBa	NGC4371	Virgo	12h 25m 13.01s	+11° 39' 55.7"	14
SBb	M95	Leo	10h 44m 19.75s	+11° 40' 01.7"	2
SBc	M58	Virgo	12h 38m 00.91s	+11° 46' 56.6"	9
Ir	M82	Ursa Major	09h 56m 24.77s	+69° 39' 12.7"	16

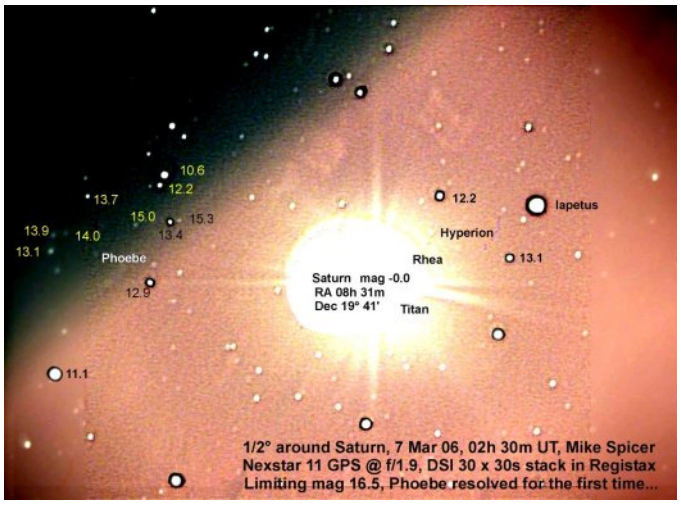
Another packed house in February at the Teamsters Hall. *Photo by Sandy Maude*

Ann Tekatch talks about her Sky Shed. *Photo by Sandy Maude*

A processed image of the Pleiades from Feb. 25, 2006. Unfortunately, I lost one of the Seven Sisters off the edge of my field of view, and I didn't get much of the nebulosity - but any longer on the exposures and I was over loading the images with light pollution. Specs:

Meade 10" Schmidt Newtonian
Canon Digital Rebel XT mounted parfocal
6 images x 30s @ ISO 1600, 6 images x 30s @ ISO 800
processed with Registax and Corel Photopaint 10

by Tim Harpur



Phoebe *by Mike Spicer*

When I spoke on Saturn at the January 2006 meeting, I said that my challenge in 2006 was to capture an image of Phoebe, a 16th magnitude "moon" 220 km in diameter orbiting almost 13 million km from Saturn. I captured Phoebe last night, 6 March!

The image shows a frightfully overexposed Saturn and dozens of stars down to magnitude 16.5 (and Saturn's moons Iapetus, Hyperion and Phoebe). It is a peculiar-looking image with a bright orange rectangle surrounding Saturn. May I say a little about the image?

First, it is a 1/2° wide image because Phoebe is so far from Saturn. I took the image using the fantastic fastar optics of the Nexstar 11 GPS telescope - enabling me to image at F/1.9 (550mm focal length) with the Meade DSI CCD camera. 30 second images reached down almost to magnitude 17 in the city, but gave me a 1/2° field of view.

Second, the fastar was not designed for the DSI camera. Getting a clear focus required a lot of fiddling with adapters because the fastar has no focus assembly. In the end I think I got pretty good focus, but the adapter misaligned the UV filter (stupidly designed as a square rather than a round filter) and its black plastic housing vignetted the field of view - the filter rendered that square, off-kilter orange looking sky.

Third, while cold and wind will not stop me from observing, the poor transparency and light pollution inside the city does indeed keep me from getting the depth of field I'd like. Visual observing from my patio last night revealed at least three magnitudes lost compared to observing at Binbrook, for example. I think imaging from the Conservation Area with the same equipment should permit imaging to magnitude 19 and I may get some good images of the moons of Uranus this summer.

Water on Saturn's moon Enceladus!

According to today's journal Science, the Cassini spacecraft has spotted a water geyser on the south pole of Saturn's moon Enceladus, which raises the possibilty of possible extraterrestrial life on the distant moon.

Story submitted by Cathy Tekatch

For Sale

Need upgrades or accessories for your scope? These 6 items are available from Mike Spicer (deBeneEsse2001 at AOL.com) or 905-388-0602:

NASA's Space Place

Micro-sats with Macro-potential

By Patrick L. Barry

Future space telescopes might not consist of a single satellite such as Hubble, but a constellation of dozens or even hundreds of small satellites, or "micro-sats," operating in unison.

Such a swarm of little satellites could act as one enormous telescope with a mirror as large as the entire constellation, just as arrays of Earth-bound radio telescopes do. It could also last for a long time, because damage to one micro-sat wouldn't ruin the whole space telescope; the rest of the swarm could continue as if nothing had happened.

And that's just one example of the cool things that micro-sats could do. Plus, micro-sats are simply smaller and lighter than normal satellites, so they're much cheaper to launch into space.

In February, NASA plans to launch its first experimental micro-sat mission, called Space Technology 5. As part of the New Millennium Program, ST5 will test out the crucial technologies needed for micro-sats—such as miniature thrust and guidance systems—so that future missions can use those technologies dependably.

Measuring only 53 centimeters (20 inches) across and weighing a mere 25 kilograms (55 pounds), each of the three micro-sats for ST5 resembles a small television in size and weight. Normal satellites can be as large and heavy as a school bus.

"ST5 will also gather scientific data, helping scientists explore Earth's magnetic field and space weather," says James Slavin, Project Scientist for ST5.

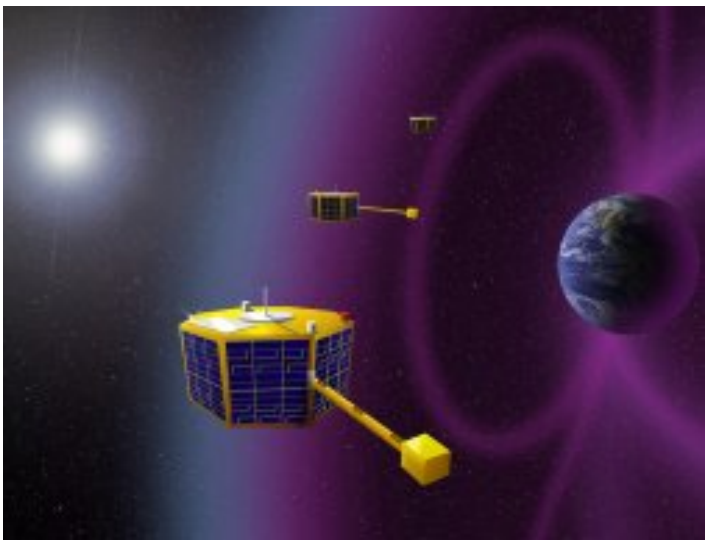
Slavin suggests some other potential uses for micro-sats:

A cluster of micro-sats between the Earth and the Sun—spread out in space like little sensor buoys floating in the ocean—could sample incoming waves of high-speed particles from an erupting solar flare, thus giving scientists hours of warning of the threat posed to city power grids and communications satellites.

Or perhaps a string of micro-sats, flying single file in low-Earth orbit, could take a series of snapshots of violent thunderstorms as each micro-sat in the "train" passes over the storm. This technology would combine the continuous large-scale storm monitoring of geosynchronous weather satellites—which orbit far from the Earth at about 36,000 kilometers' altitude—with the up-close, highly detailed view of satellites only 400 kilometers overhead.

If ST5 is successful, these little satellites could end up playing a big role in future exploration.

The ST5 Web site at `nmp.jpl.nasa.gov/st5` has the details. Kids can have fun with ST5 at `spaceplace.nasa.gov`, by just typing ST5 in the site's Find It field.



The Space Technology 5 mission will test crucial micro-satellite technologies.

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

Why is the sky blue? Why does the sky sometimes turn red at sunset? Every curious child will ask these question at some point. Are you ready to give scientifically correct and simple answers? Visit SciJinks to refresh your memory. The SciJinks Web site targets young people of middle school age. It is a joint effort of the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). The new "Why is the sky blue?" page can be found in the How & Why menu on the SciJinks Weather Laboratory home page, `scijinks.gov`

Council meetings

All club members are welcome to attend the council meetings. Contact `info@amateurastronomy.org` for details.
