AURORA

The Royal Astronomical Society of Canada - Windsor Centre

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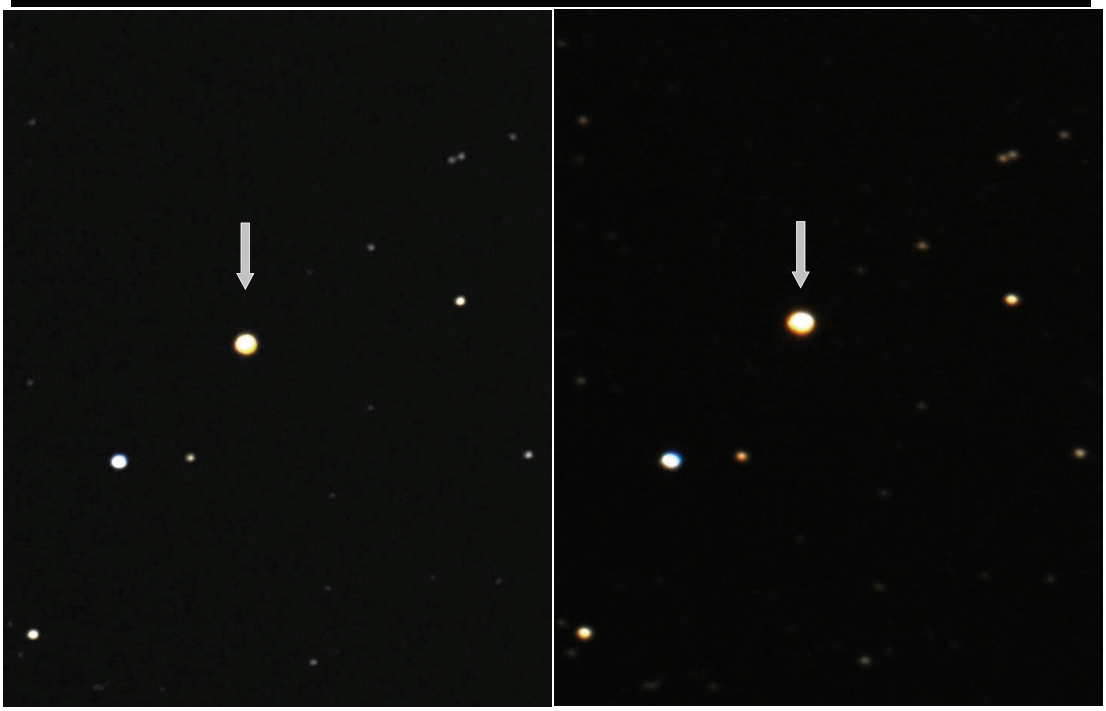
October 2011

Barnard's Star by Dave Panton



Last year on a slow night at Hallam Al DesRosiers suggested taking some images of Barnard's star. It was only a name to me so he told me it is a star close enough to Earth that astronomer's can quite easily detect it's annual motion against back ground stars. Taking images annually does not sound very exciting at the start. Nothing ventured nothing gained. It is in a good position in Spring so we went for it.

The first images were taken on May 19, 2010 in the C14 with my Nikon D40 camera set at prime focus. Nine 30 second exposures were taken at ISO 400 followed by a equal set of dark frames. Stacking and processing was done in Deep Sky Stacker. So much for that. The image (above left) is not exciting in the least. At magnitude 9 it is brighter than surrounding stars and easily identified.

After a crummy Winter and Spring at Hallam the sky finally opened on May 30, 2011. Perfect to take another set of Barnard's star images in the C14 under identical conditions, stack them and see what it looked like. Again, not a very exciting final result (above right). After all who cares about a few stars in a small patch of the night sky?

Most of us have witnessed objects like comets, asteroids, planets and even the Moon move across our back ground stars and appreciate their motion. Star motion is a different matter entirely. No one can imagine the thrill of carefully comparing the images and suddenly seeing Barnard's star was not where it was a year ago! Astronomy has a fascination that only a few can appreciate. Al had a great idea. Maybe imaging Barnard's star at Hallam will become an annual event.

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Calendar of Events

Our next meeting…

Tuesday November 15, 2011
7:30 p.m.
at
Ojibway Park Nature Centre
5200 Matchette Road

Main Speaker…

Steve Mastellotto, Dave Panton and Brian Thomas

Topic…

A series of short talks on Astrophotography

Activities...

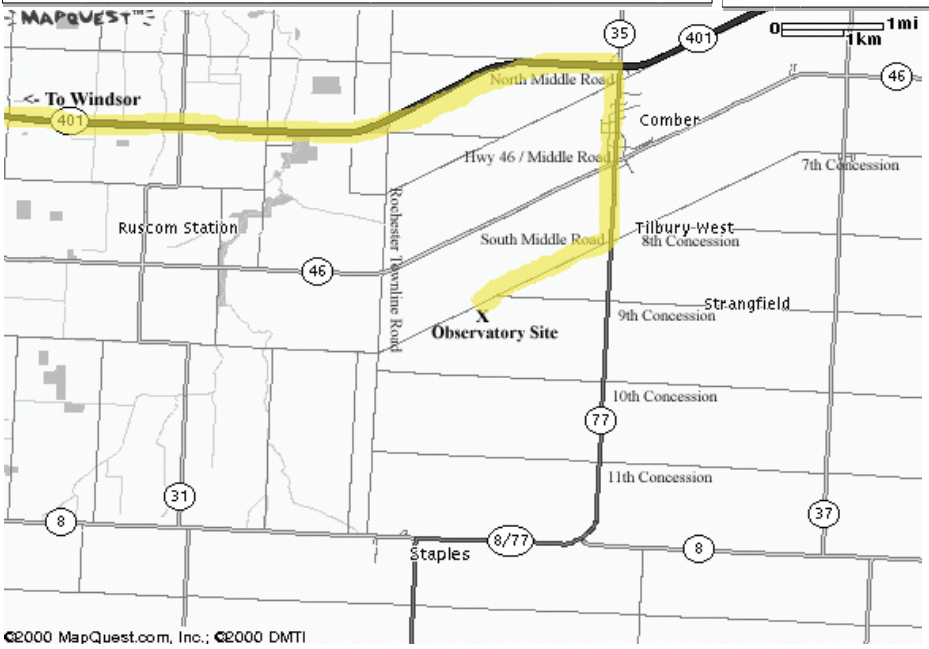
Mercury and Venus close to the Moon: In the evening of Thursday October 27th. Moon is only 1.3 days old. Mercury and Venus are within 2 degrees of each other for the first two weeks of November.

Jupiter at Opposition: Friday October 28th. Jupiter is now well positioned for viewing all evening through the end of the year.

Open House Night at Hallam: The next open house night at Hallam is on Saturday November 5 at 7:00 p.m..

Daylight Savings Time Ends: On Sunday November 6th.

Mars and Regulus: On the morning of November 19th look for Mars to pass within 1.5 degrees of Regulus.



Hallam Observatory Site

Directions: The map at left shows the Comber area and it includes the major highways (401, 77, 8 and 46) that are in the area of the observatory.

The most direct route from Windsor is "highlighted" on the map which is to take Highway 401 East to Highway 77 South to South Middle Road. Turn right onto South Middle Road and go about 1 kilometer and just after the point where Concession 9 joins it (it is hard to see this intersection) you will find the observatory site on the South side (left) of the road. 3989 South Middle Road.

If you hit the Rochester Townline Road (you come to a stop sign) you have gone too far.

Submissions

Aurora is published monthly except for July, August and December. The September, October, January, March and May issues are full newsletters (usually 6 pages) with a number of member submitted articles. The November, February, April and June issues are short flyers (2 pages).

Submitted articles can be of any length from a paragraph to multiple pages. I can scan pictures and/or diagrams (both prints and film) to support your article and the originals will be returned to you.

Submission deadline is the 1st of the month.

Editor: Steve Mastellotto Email: mmastellotto@cogeco.ca

Membership

The Windsor Centre of The Royal Astronomical Society of Canada meets on the 3rd Tuesday of every month (except July and August) at the K of C Maidstone Recreation Centre. In addition to regular meetings the centre hosts a number of observing nights, a picnic and a December social. Members receive a copy of the Observer's Handbook, a subscription to SkyNews magazine and access to the Centre's library and telescopes. And optionally the RASC Journal in print form—online version free.

Annual Membership Fees: Please see the RASC website at **www.rasc.ca** for current rates.

Contact Greg Mockler at (519) 326-7255 or visit our website at: http://www.rascwindsor.com for more information.

September 2011 Meeting Minutes by Art Rae

The monthly meeting of The Royal Astronomical Society of Canada - Windsor Centre was held at the Ojibway Park Nature Centre on September 20, 2011.

Windsor Centre President Paul Pratt chaired the Meeting. Paul called the Meeting to order at 7:40pm and welcomed members and guests to the new meeting venue at the Ojibway Park Nature Centre.

Motion to accept the Minutes of the last meeting of June 21, 2011 moved by Pierre Boulos, seconded by Greg Mockler. **MOTION CARRIED.**

Announcements

Paul reminded the membership about the Aleksander Winery event to be held on October 1, 2011. We require volunteers for the event, displays, Hallam hardware delivery, food donations and coffee.

Public shareholders meeting at Point Pelee regarding dark sky preserve designation. The Park will remain open one night per month until midnight starting on November 25th. See the friends of Point Pelee website for more information.

For October 27th event an astrophoto volunteer is needed.

Steve Mastellotto announced the Astrophoto Group website is up and running for the world to see. Currently 16 members have folders created to host their astrophotos.

Paul Pratt introduced the first speaker of the evening.

First Talk: Hallam Wind Turbines by Dave Panton

Dave presented a history of the build up of wind turbines around the Hallam Observatory property. Showed was the lifting and mounting of the 25 ton turbine blades and the passing of the Observatory by the 300' tall assembly crane. Also shown were comparison photos of what was estimated against what was actually erected in regard to visual obstructions. In his opinion we will not have obstruction problems with these turbines.

Paul Pratt introduced the second speaker of the evening.

Second Talk: Fall Objects for Binocular Viewing by Steve Pellarin

Steve presented his "Binocular Observing My Top 10 Deep Sky Objects For The Fall". Described were useable binocular types suitable for sky observing. Not one binocular type is best. Cost is an issue. A bigger aperture is wanted but not necessarily for you due to added weight. Coatings are a factor on lenses and better quality means more cost.

"My Top Ten..." list included:

#10. The Cheshire Cat asterism in Auriga near M38

#9. Double star Gamma Andromeda, Upsilon, a star with circling planets.

#8. The Golfball and Putter southwest from Gamma Andromeda.

#7. Messier 2 globular cluster in Aquarius, described as not a showpiece like M13 but at magnitude 6.5 the small cluster is easy to see in binoculars even if it is a challenge to find off the head of the horse(Pegasus).

#6. The Pinwheel galaxy, M33 is one of the closest to us shining at magnitude 5.7 from 3.7 million light years away. It is the faintest of visible galaxies.

Steve indicated he would continue the list countdown later in the fall.

Paul Pratt thanked both speakers.

Break and 50/50 Draw. Monthly Draw: Was won by Ryan Gabriele.

Open House Night at Hallam this coming month will be the same night as the Winery event October 1.

Director of Observing Report, Juliana Grigorescu: Juliana opened the presentation asking members if they had done observing this summer and what those experiences were and handed out sky charts for September.

Upcoming items of interest include:

- Autumnal Equinox on September 23
- Starting to see Winter constellations and looking away from the center of the Milky Way
- Deneb "absolutely amazing star" using members' photos in reference to sky charts to locate it
- Sun has active sunspots in pairs now
- Moon: this moth will have a 'Blue Moon'
- Mercury in morning sky
- Venus in evening
- Mars on September 30 close to M44 early morning
- Jupiter is visible through most of the night
- Saturn is setting early evening
- Uranus in opposition September 25th in Pisces
- Neptune at mag.7.8 in Aquarius 5° from A Aquarii
- Described was how Neptune was discovered in 1846
- Asteroid Vesta is visible near Psi Capricornii, being orbited by the Dawn spacecraft
- Also of note variable star Algol (Beta Persei) and Comet Garradd crossing the constellation Pegasus. Showed photos and path chart of the comet passing near the constellation Cygnus. Two close approaches to Earth will occur August 20th this year and March 2012.
- Big event this summer has been the supernova in M101, August 23rd. This was a complete destruction, classed Type B supernova. Shown were members' astrophotos including Brian Thomas' before and after photos of M101 and the supernova

In space news NASA has a satellite deorbit expected around September 23rd but the accurate prediction is yet unknown. Watch Spaceweather.com/flybys for more information.
Juliana then took questions from the audience.

Paul Pratt thanked Juliana Grigorescu for her presentation and the audience for attending.

The Meeting was adjourned at 9:53pm.

Hallam Happenings by Dave Panton

The recently erected wind turbines surrounding Hallam Observatory have become a non issue and a pleasant part of the local scenery. We understand the entire project is to be commissioned by the end of November at which time they should be generating "green " energy .

The observatory has been used more for astroimaging than casual observing with the usual dreary weather (too much overcast and rain) limiting both activities. An ugly problem arose at the October open house when the telescope exhibited gross pointing errors when operating in Sky 6. Mysteriously in Sky X it pointed fairly well but not perfectly as the base level was "out" from it's best position.

The problem was located and solved by Steve Mastellotto for whom we owe a vote of thanks. Your observatory director was totally baffled by what seemed a totally intractable problem. The theory is some unknown individual using Sky 6 to control the telescope inadvertently added a totally inappropriate star to the T-Point model (used to improve pointing accuracy over the whole sky) distorting it so badly the telescope mount could not point closer than 5 Moon diameters from the intended targets. The new Sky X program used for the same purpose was not affected.

To see some of the great astro images being obtained at Hallam, check out our website and go to "members astrophotos" . This is the first year we have had all the equipment needed to make this possible. I refer to the Bahtinov focus masks and light boxes custom built for both telescopes plus of course the absolutely essential PHD autoguider installed to track astronomical objects very accurately.

Editor: I really like this photo by Dave because it illustrates a common photographic illusion of compression. When you use a telephoto lens it magnifies distant objects (the wind turbine) and compresses the depth so that everything appears stacked up on each other. A wide angle lens has the opposite effect and exaggerates foreground objects. So don't worry, our view from Hallam has not been overtaken by wind turbines. Believe it or not, at night it is hard to even find this wind turbine.

There are lots of Sun spots at this time. Some have been imaged and others observed from Hallam in the C14 fitted with a Sun filter. Viewed in the C14 via the essential Sun filter on October 6th they were scattered all over the surface, none large enough to make a great image.

Comet Garradd, while not yet very exciting is a great target in the C14 and worth a an hour's observing time just to witness it booting along its path among the stars.

The steel stakes and cables holding our vital human relief facility in place against the winds at Hallam have been slowly emerging from the ground. Perhaps Old Man Frost did it last Winter. They have been pounded down and the cables should hold it in place against all but a large tornado.

Al DesRosiers kept the heavy growth of grass cut all Summer and into the Fall. The site looks attractive and well maintained. Moe Trepanier cut the large area with heavier equipment to the same great effect.

A reminder to observatory key holders: Please enter the time you come and go as well as a note or two as to what you were observing or imaging plus of course notes on any snags in equipment operation. Mention of outdoor observers is useful and at open houses guest sign in names may later prove valuable as a record of our public outreach efforts.

One other reminder to key holders is that the annual key fee of $40 is now owed to our Treasurer. Please make your payment as soon as possible or return your key. Thank You.

Proposed 2012 Council of the RASC - Windsor Centre

Elected Officers

President	Paul Pratt
1st Vice-President	***Open Position***
2nd Vice-President	Sue Iihola
Secretary	Art Rae
Treasurer	Greg Mockler
National Council Rep.	Mike Mastronardi

Councilors

Tina Chichkan	Randy Groundwater
Steve Mastellotto	Steve Pellarin
Paul Preney	Susan Sawyer-Beaulieu
Brian Thomas	C. Joady Ulrich

Appointed Officers

Honorary President	Dr. William Baylis
Past-President	Dr. Pierre Boulos
Librarian	Rick Marion
Recording Secretary	Art Rae
Public Education Director	***Open Position***
Public Relations Director	Sue Iihola
Directors of Observing	Steve Pellarin
	Juliana Grigorescu
	Matt McCall
Light Pollution Abatement Dir.	Dan Taylor
Hallam Observatory Director	Dave Panton
Aurora Editor	Steve Mastellotto
Webmaster	Steve Mastellotto

For Sale

Seldom used **Celestron 9.25" Optical Tube Assembly** on Losmandy dovetail bar. This 2008 model has StarBright XLT Coatings, 6x30 finder, standard visual back and 1.25" star diagonal. Excellent condition. Offering it to Windsor Centre members first at $900. For more information or pictures please contact Brian Thomas at brithomas@live.ca.

Meade Deep Sky Imager with Autostar Suite. Sony Super HAD Colour CCD sensor, 510 x 492 pixels (9.6 x 7.5 microns), 16-bit, USB 2.0 and 1.1 compatible. Please see Steve Mastellotto (mmastellotto@cogeco.ca) if you are interested in this one-shot colour imager for only $100.

Winery Event Photos by Tom Sobocan

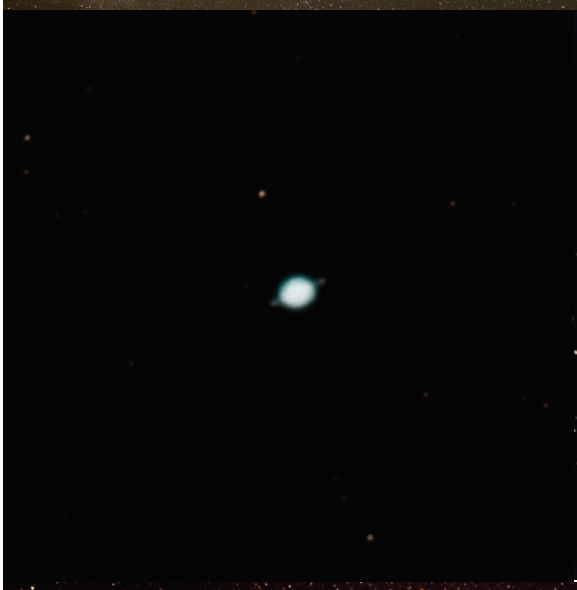
On Saturday October 1 the RASC - Windsor Centre hosted a fundraising event of wine tasting, food and astronomy at the Aleksander Estate Winery. Randy Groundwater provided an interactive demonstration of celestial motions and a short slide show. A number of Centre members brought telescopes and food and helped with the event organization.

In the photo above Nathalie Constantineau (our host) is handing a glass of wine to one of our guests. Lukasz Bemben (son of Aleksander Bemben - owner of the winery) is standing in the background.

In the photo at left Steve Pellarin is using a laser pointer to show guests where the Leviathan (Steve's telescope in the background) is pointing.

You can see by the layers of clothing worn by our guests and Lukasz that it was a cold night and the wind was blowing pretty strong.

Member Photos



Top Left: ***Antares/Rho Ophiuchi Region*** *by Scott Stuckless. Piggyback 3 minute exposure at 55mm, f/5.6, ISO 1600 from the Bruce Peninsula. Top Right:* ***M15*** *by Brian Thomas on July 26. Canon 5D, Celestron 14, 9x2 minute subs, ISO 400. Middle Left:* ***NGC 7009 The Saturn Nebula*** *by Brian Thomas on August 28. Canon 5D, Celestron 14, 1 hour exposure, ISO 400. Middle Right:* ***M17 The Swan Nebula*** *by Brian Thomas on June 26. Canon 5D, Celestron 14, 14x3 minute subs, ISO 400. Bottom Left:* ***M8 The Lagoon Nebula*** *by Rick Marion on July 9. QHY8 CCD Camera, AT111, 11x5 minute subs. Bottom Right:* ***M20 The Trifid Nebula*** *by Brian Thomas on June 29. Canon 5D, Celestron 14, 24x3 minute subs, ISO 400.*