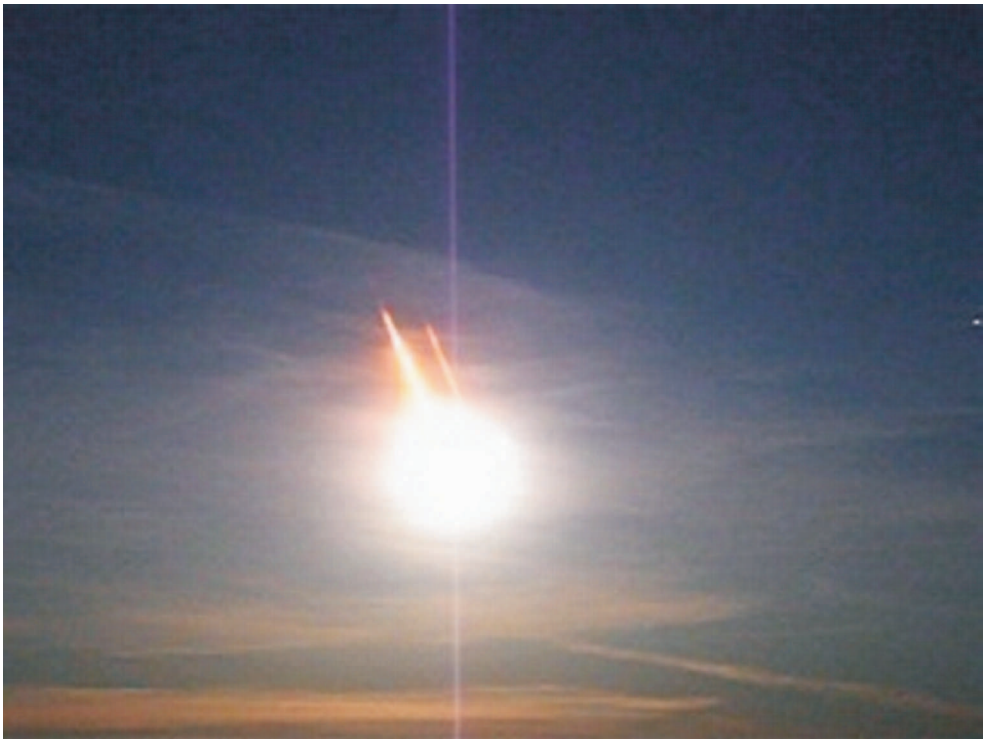
January 2009

Regulus

RASC Kingston Centre



Edmonton Fireball, 2008 November 20 ~17:26 MST

Member Hank Bartlett's brother Andy captured this spectacular fireball on a 56-second video using a Canon Powershot A510.

From the Editor...

Walter MacDonald

Welcome to the next generation of ***Regulus***! In a moment of weakness I agreed to once again become a newsletter editor...so hang on to something—if history is any indication it could be a wild ride! (*The President hovers nervously offstage and wonders, "What have I done?"*)

Newsletters are always short of good material and *Regulus* is no exception. So I send out the perennial editor's plea: please send some! Remember that even a paragraph or two can be useful (photo optional!)—the **Astronomical Anecdote** on page two is a perfect example of this: easy to write for contributors and entertaining to read for everyone. I would like to be able to run at least one of these in every issue (and we do 12 issues per year!). Start racking your brains people—I'm sure there are lots of anecdotes (and articles) out there!★

In this issue:

Upcoming Meetings

Friday, January 9, 2008

7:30-9:30 p.m.

The International Year of Astronomy

Kim Hay (Kingston Centre) and Stephan Courteau (Queen's University) will provide an update on joint efforts of the RASC, Queen's, and RMC to bring Astronomy to the public in the greater Kingston area.

Tuesday, January 13, 2009

7:00 p.m.

IYA 2009 Special Lecture: Sara Seager will speak on "Extra-Solar Planets" **at Currie Hall, RMC**

Friday, February 13, 2009

7:30-9:30 p.m.

Dr Gregg Wade will speak on recent "Large Programs" that have been established at the Canada-France-Hawaii Telescope. These are really exciting, and range from a census of the Virgo cluster to detailed mapping of individual stars. One of the four Large Programs is his own project called MiMeS, which is about stellar magnetism.

Meetings are held at Stirling Hall Theatre "A" on Bader Lane at Queen's University in Kingston, Ontario. Our meetings are co-sponsored by the Queen's Physics Department and include astronomy lectures open to the public.★

KAON Public Observing

Saturday, January 10

7:30-9:30 p.m.

Galileo — What Did He Know Then? What Would He Think Now? Speakers: Judith Irwin, Galileo and Cardinal Barberini

Saturday, February 14

7:30-9:30 p.m.

How Has Galileo's Telescope Evolved? Speaker: Susan Gagnon

KAON (Kingston Astronomy Outreach Network) sessions are held at Queen's Observatory on the 4th floor of Ellis Hall.★

Astronomical Anecdote

Kevin Kell

How Not To Use Your Telescope For Solar Projection

The image (at right) was passed on to me of what used to be a 2" glass filter. This is an example of what can happen when using your large aperture telescope for solar image projection (which you probably should not be doing to begin with!) and accidentally leaving your filters in place. Notice the elegant cracks and the central crater itself.

As you may recall, many years back at **Starfest**, a dobsonian telescope was closed down for the night with a partial cover over top, the telescope horizontal, and a film canister stuck in the focuser to keep dust out. Unfortunately a wind came up later and blew the cover off the top of the telescope. The owner did not have a cover over the telescope, which just happened to be pointed in an easterly direction. Come sunrise there was smoke, a plastic stench, and a large hole in the film canister. [*Rumours at the time said the telescope caught fire!*—Ed.]★

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Regulus Needs You!

Items of interest from members—full articles, or even just a couple of paragraphs are always welcome. Deadlines for each issue are the last day of the month. Send items to:

walter2 (at) starlightccd (dot) com

or:

Walter MacDonald
PO Box 142
Winchester ON K0C 2K0

The Fine Print:
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President's Message

Kevin Kell

Greetings one and all in this 9th year of the 21st century. **Technology** continues to move along, with astronomical tools becoming less and less expensive (20cm Skywatcher Dobsonians for $300-350, 9cm Meade DS90 Refractor for $150-180) and increasingly digital (Canon A590IS 8mp x4optical zoom $120, Generic Workstation Intel Core2 Duo 2GHz, 1Gb, 250Gb drive for $200-250). More and more in the hobby, individuals are able to afford good equipment, can buy it and can use it.

Looking forward I think it will only continue and within most of our lifetimes, all members will own large aperture high tech digital equipment that will rival what the well endowed amateur has today. If you are one of those already, perhaps you could look into one of the ongoing observing projects we have, imaging **asteroids** with Kingston links.[1] We hope to build up an archive of at least one image per year on each of these objects... better yet, perhaps we can get some more added to the list by getting a new one named!

Looking back to 2008 saw the **RASC** take steps to get the basic financial footing onto solid ground. Membership prices have been raised to cover the cost of membership and the national office building at 136 Dupont Street has been sold for $500k (see story on page 6 of this issue), after a particularly disastrous year of being a landlord to a devastating tenant. For the future we can only hope that the governance structure gets looked at where paid subsidies of upwards of 50 Council Members and Officers are eliminated. That or the physical size of the Council gets cuts down tremendously. The new National office will be a commercial rental office and should be in place by the end of March 2009. If it can double as a meeting place for National Council, even better as the last few times have had to be in various rental space. Enough politics already and more astronomy.

Speaking of the General Assembly in mid August being held at the Summer Saskatchewan Star Party in the Cypress Hills.

The biggest event of the year is the year itself, 2009 the **International Year of Astronomy**. Hopefully it will have a bigger effect on people than 2008, the International Year of the Potato. We have joined forces with Queen's University and the Royal Military College and will have a number of regular and special events
throughout the year. You can read more about it later in this issue.

Communications continue to be critical to RASC-KC and our members. We recognize that not all of our members have easy access to the Internet and to our web site and PDF newsletters. Because of this we will continue to produce a paper newsletter on odd numbered months for at least 2009. We will attempt to create and maintain a paper-opt-out list for those wishing to pass on the paper copies and save the centre on it's single largest financial line item.

Do you have ideas, comments, questions about our **website**? Let the webmaster know! Walter MacDonald has added a lot of historical content to our site over the last few years and some of it is actually quite interesting! [*Actually,* most *of it is quite interesting!*—Ed.] What other content would you like to see to draw you to the site on a more frequent basis?

Lastly, don't forget about why we are actually here... **observing**! I know I've had more cloudy nights this year than most and I suspect many of you are the same. But if you do get out and run out of things to observe, don't forget to take a look at our observing certificate programs.[2] An added incentive I have heard rumours about is an actual lapel pin on completion of the Certificate. Cool!

Clear skies in 2009!★

Above: two examples of some of the historical RASC publications now available online on the centre's and the RASC's websites. See the full story on page 4.

Web Links

1. Asteroids With a Kingston Connection:
http://kingston.rasc.ca/Observing/rasckcasteroids.php

2. Observing Programs and Information:
http://kingston.rasc.ca/observing.php

Old RASC Publications Go Online!

Walter MacDonald

RASC Publications 1890-1905

The RASC was originally founded in 1868 in Toronto as the Toronto Astronomical Club (later Society). Starting around 1884 the name Astronomical and Physical Society of Toronto was used. The club was incorporated in Ontario in 1890 and published annual volumes entitled *Transactions*. From 1902 to 1905 the annual volumes continued as *Selected Papers and Proceedings*. During this time the Society received permission to change its name to the Royal Astronomical Society of Canada. No publication was issued in 1906, but in 1907 the *Journal of the RASC* and the annual *Observer's Handbook* were established; both continue to be published to the present day.[1]

In the past if you wanted to see these publications, you had to either go to a library that had them or to the RASC's national office on Dupont Street in Toronto. Now, however, these volumes are readily available to everyone in the world via the RASC website.[2] If you have an interest in the activities of our late 19th and early 20th century predecessors, these old volumes are well worth checking out!

RASC Publications 1970-1996

Back issues of two other historic Society publications have also been placed on the Society's website:

National Newsletter

The *National Newsletter* was published bimonthly from 1970 to 1990. It started out as a four-page insert in the *Journal*.
From there it expanded in volume and was eventually bound separately from (but still mailed with) the *Journal*. Most of the material was gathered from various Centre newsletters and as such it truly was a *national newsletter* which counterbalanced the generally technical and refereed content of the *Journal*.

Bulletin

In 1991 the *National Newsletter* was re-launched as the *Bulletin* with a new larger format and produced on a personal computer with that somewhat newfangled technology known as desktop publishing. The bimonthly schedule continued, in synch with the *Journal*.

Finally, with the 1997 "revitalization" of the *Journal* of the RASC, the *Journal* and the *Bulletin* were "merged" into a single publication in much the format it is in today — though of course, for the last handful of years, most RASC members have opted to receive their *Journal* electronically as a PDF file rather than as a printed paper copy.

The transition from paper to electronic publishing marks another notable event in the history of the Society's publications. The feasability of this transition has been made possible by ever more powerful personal computers (with ever larger storage capacity and viewscreens) and, of course, the Internet.

Other RASC Publications

For the sake of completeness, it should also be mentioned that both the Society's *Journal* and Annual Reports are available online as well:

Journal

The *Journal* is available online through NASA's Astrophysics Data System (ADS)[3].

RASC Annual Reports

Up until 1960, the Annual Reports were published in the *Journal* (and so are available via ADS). From 1961 forward, these reports were published separately from the *Journal*. These are now all available from the Annual Reports page[4] in the Members Only area of the Society's website. Conveniently, this page contains ADS links for the 1914-1960 reports so you don't have to build your own ADS queries!

A Final Note

This wealth of material is also archived locally on the Kingston Centre's website (under "Publications"). ★

References:

1. **Looking Up, A History of the RASC,** R. Peter Broughton, Dundurn Press, Toronto, 1994, pp. 4-5, 91-95.
2. The **RASC's "Our Printed History" page** is located at: http://www.rasc.ca/publications/printhistory.shtml
3. **NASA's Astrophysics Data System** is located at: http://www.adsabs.harvard.edu/
4. The **RASC's "Annual Report" page** is located at: http://www.rasc.ca/private/governance/annualreports.shtml (note: you need the RASC login and password to access this page. If you don't know it, there are instructions on getting it at http://www.rasc.ca/members.shtml).

Blast from the Past

Walter MacDonald

As an example of some of the fascinating material to be found in old Society publications, this time we present a summary of...

A Visit to the Yerkes Observatory

On August 23rd, 1898 the Toronto Astronomical and Physical Society, held its 16th meeting of the year. At this meeting, member **Mr. W. Balfour Musson** of Toronto reported on his recent visit to the Yerkes Observatory which at the time was just newly built!

With a letter of introduction from the RASC president in hand, Mr. Musson journeyed to Chicago from where he took a 2½ hour train ride to William's Bay, Wisconsin and then walked the final mile to the observatory. He was received by none other than **George Hale**, the prime mover behind the construction of a series of ever larger largest-ever telescopes that propelled the USA to the forefront of astronomy and astrophysics by the early 20th century. Of course, that list of monster telescopes includes the 40-inch refractor at Yerkes, and it at least is still the largest refractor in the world — a record that likely will never be beaten (I was going to say "broken" but I don't like to have that word in the same sentence as "refractor!").

Dr. Hale gave Mr. Musson a complete tour of the observatory, including its "lecture, computing, and reception rooms, the chemical and spectroscopic laboratories, the library, general offices, enlarging and instrument rooms." This was not just a walk-through — he was able to talk at length with the staff about their work and examine first-hand various new instruments and telescopes they were working on. Not the least of these was the 60" diameter slab of glass that a certain **Mr. Ritchey** (of optical fame) was working into the heart of a new flagship telescope!

As with all tours of Yerkes, one eventually winds up in the big dome housing the glorious 40" refractor. Here Mr. Musson was introduced to one **Professor Barnard** who, after some conversation, invited our intrepid traveller to return to the dome that evening to observe with him using the 40"! It was clear that night and the observing session included Saturn and "one or two star clusters."

The next day there was "further conversation with Dr. Hale" and inspection of various negatives of "solar spots, prominences, and faculae." Dr. Hale elaborated on the strengths of large refractors and large reflectors as well as the various research programs in progress at Yerkes. A nearly-completed 24" reflector was slated for installation in the south-east tower in the near future. Clearly there was no shortage of projects underway at that time.

"Prof. Barnard's conversation lead [sic] me to the conclusion that so long as amateurs work earnestly and carefully, they may expect every encouragement from the professional men."

-W. B. Musson

Wow, what a trip! Imagine being able to go back in time and join Mr. Musson — to talk with Hale and Ritchey, to observe with Barnard! That is definitely a very pleasant fantasy for a cloudy night. Of course Yerkes Observatory is still around today and, at least physically, is much as it was back then; if you get the chance it is still worthy of a visit in this century.

Reference: *Transactions of the Toronto Astronomical and Physical Society*, 1898, pages 63-68.★

Photo: Walter MacDonald

Yerkes Observatory, 2006

RASC HQ Sold

Dave Lane, RASC President

The Executive and Property Committees hereby announce that our building in Toronto has been sold. The last condition of an accepted offer dated December 12 was met yesterday. These conditions included the buyer being able to arrange suitable financing, an inspection of the building being satisfactory to the buyer, and the buyer satisfying themselves that they can use the property after the sale for their intended usage.

The details are as follows:

- ☆ Selling price: $499,000 (same as listing price).
- ☆ A deposit of $30,000 has been received.
- ☆ The property is sold "as is" (in its present condition without any repairs to the apartment, etc.).
- ☆ The closing date is 2009 March 20.

We expect to realize just north of $470,000 from the sale after the 5% realtor commission and legal fees.

Needless to say, we are pleased that a buyer was found so quickly given the market conditions. This is entirely due to our Realtor contacting a previous client that looked at a similar property across the street (but at a higher price point) more than a year ago.

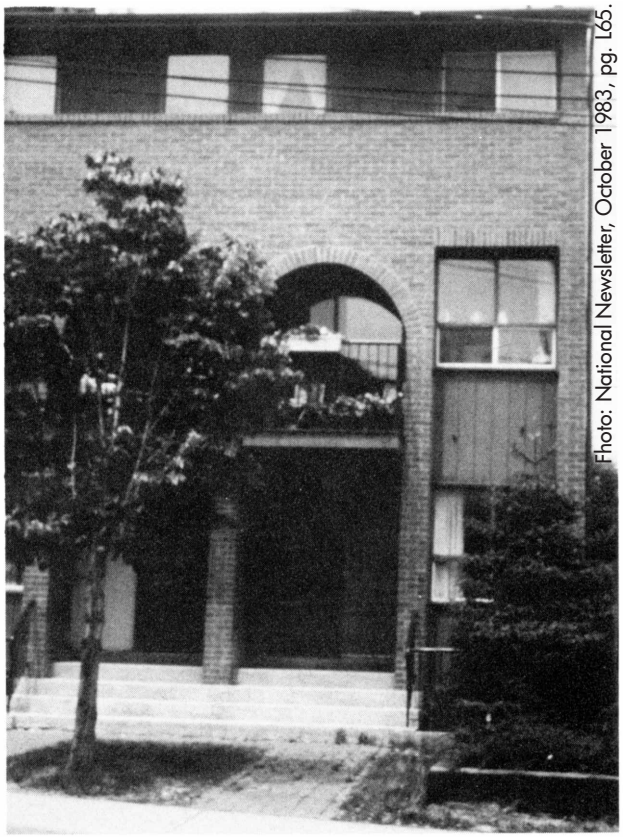


Photo: National Newsletter, October 1983, pg. L65.

Early in January we will firm up the requirements for the new office and begin to search for leased office space. A few weeks ago the Property Committee continued its research into the Toronto commercial office space market. The advice received after speaking with five brokers was that there is lots of suitable office space available at rates we can afford. I'd like to personally thank the executive and property committees who have all worked diligently throughout this process. ★

RASC HQ History

Walter MacDonald

Throughout the history of the Society, it has always been headquartered in Toronto—early on in rented office space, later on in buildings of its own. *Looking Up* (pages 25-33) gives a detailed history of the Society's headquarters over the years; its various locations are listed in the table below. A summary of the financial numbers is as follows:

RASC HQ at 252 College Street
Photo: National Newsletter, April 1976, pg. L32.

The College St. property was bought for $32,000 and sold 20 years later for $185,000. Following this, office space was rented on Merton Street for half a dozen years at $7,500 per year. Finally, the Dupont Street property was purchased for $165,000 and sold 25 years later for $499,000. ★

1893	Young Women's Christian Guild	19 McGill St.
1895	Technical School	College & McCaul Streets
1898	The Canadian Institute	58 Richmond St. E.
1905	The Canadian Institute	198 College St.
1946	Christian Social Council of Canada	3 Willcocks St.
1953	Leased building	15 Ross St.
1956	Purchased building	252 College St.
1976	Leased office	124 Merton St.
1983	Purchased building	136 Dupont St.
2009	Leased office	TBD

RASC HQ at 124 Merton Street
Photo: National Newsletter, October 1976, pg. L57.

Variable Views

Walter MacDonald

There is always something interesting happening with variable stars! The best part is that there is still much that you can usefully observe with just your eyeball (no CCD camera or photometer required). With that thought in mind, we are pleased to present some comments on three easily observed eclipsing variables that are currently making news:

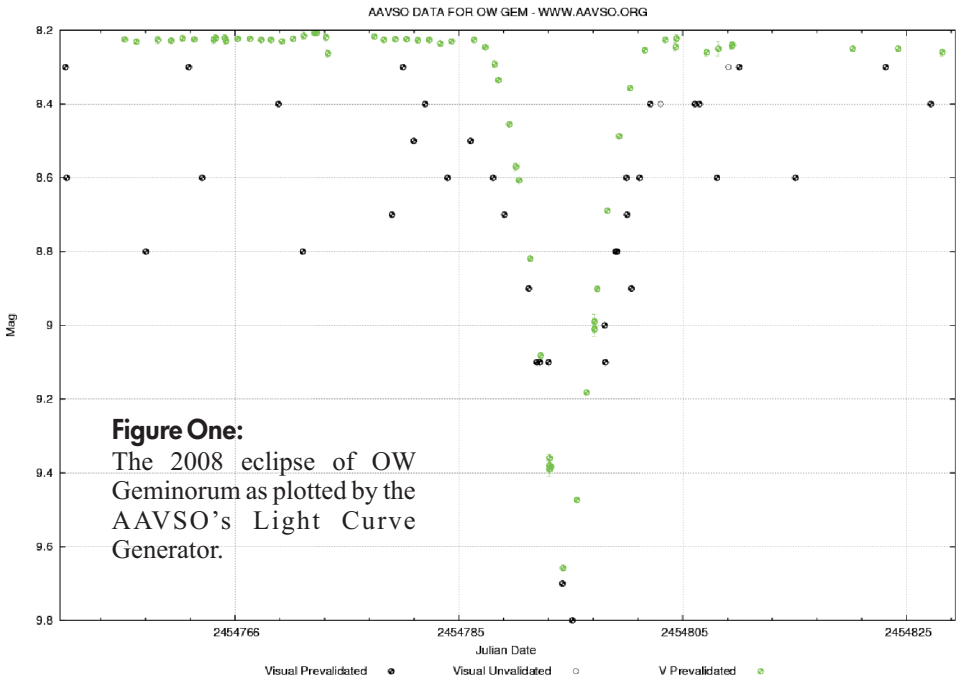


Figure One: The 2008 eclipse of OW Geminorum as plotted by the AAVSO's Light Curve Generator.

OW Geminorum

OW Geminorum was discovered in March 1988 by AAVSO member Dan Kaiser. OW undergoes 2-week long primary eclipses and 4-week long secondary (shallower) eclipses every 3½ years. OW's range is 8.2-9.7, so it is a very easy visual target. The latest primary eclipse occurred at the end of November 2008 as can be seen in the light curve at right (figure one).

EE Cephei

EE Cephei is an eclipsing binary system whose month-long eclipses come 5½ years apart. The first eclipse was observed in 1947. It was originally classified as an R CrB star, but after a few eclipses were observed this classification was revised (as so often happens in Astronomy!). At normal brightness EE is magnitude 10.7, fading to 12.1 in eclipse. This range of brightness makes EE amenable to visual as well as CCD observations with just a 6″ or 8″ scope.

According to Arne Henden at AAVSO "the predicted start of eclipse is December 29, 2008, with midpoint at January 12 and end of eclipse on January 25, 2009." So download a chart and get out there observing right away! Do one brightness estimate a night and you can get a nice light curve (weather permitting, of course!). Arne also recommends continuing your observations to the end of February to get a good baseline.

Of course, by the time this newsletter reaches you, part of the eclipse will be over, but the observations you do get can still be combined with those of AAVSO observers to form a more complete light curve.

Epsilon Aurigae

ε Aur (a.k.a. Al Anz) is quite possibly the most interesting eclipsing variable in the whole sky. Its variability has been known since 1821 and the eclipses have been observed regularly since the 1840s. Now here's the part where you have to hold on to your hat: eclipses occur every 27 years and last for two whole years! The last eclipse was 1982-84 and there are lots of complex theoretical models that attempt to explain what has been observed with this system. Astronomers have high hopes this time around since today we have all kinds of fancy photometers, CCD cameras, and orbiting multi-wavelength observatories to study this system with: perhaps the puzzle can be definitively solved this time around!

The AAVSO will be mounting a major observing campaign as one of its key projects for IYA2009. All kinds of observations of epsilon Aurigae will be needed, including visual ones—don't forget that epsilon is a very easy 3rd magnitude naked eye star, after all! The eclipse doesn't start until mid-2009 so you have lots of time to read up on this star and get ready for a long, leisurely observing project! ★

Further Reading:

Mike Simonsen's excellent blog has a great story on EE Cephei: http://simostronomy.blogspot.com/2008/12/mystery-star.html

Kingston Centre member Ray Berg observed EE Cephei's 1998 eclipse and got a nice light curve. See the Mar-Apr 1998 issue of *Regulus*, pp. 8-9.

The AAVSO's "Variable Star of the Season" has a page on Epsilon Aurigae that is highly recommended reading: http://www.aavso.org/vstar/vsots/eps_aur.shtml

The 2009 International Year of Astronomy

Kim Hay

It's hard to believe that 2009 is here. When the IAU and UNESCO declared 2009 International Year of Astronomy, many countries had already been planning events as much as 3 years ago.

Many events have been planned right across Canada to start their own kick-off events and Kingston has also been planning its own kick-off event.

On Saturday January 10, 2009 we will kick off our event at Queen's University, Ellis Hall, 7:30-9:00 pm with a reception area downstairs, a talk from **Dr. Judith Irwin** on "Galileo", and **Galileo** and **Cardinal Barberini** will visit us. There will be telescopes on the deck, and tours of the McGirr Telescope.

This is not all. We have our website for the combined efforts of Queen's University, RASC Kingston Centre and Royal Military College of Canada (RMC). Visit www.kingstoniya.ca Go there to find out what is happening on our IYA events. These will also be on the Kingston Centre website and registered on the Canadian IYA site www.astronomy2009.ca Go to the

Canadian IYA site to see what is happening at all the other Centres and clubs across Canada.

We also have a Facebook presence. Visit www.facebook.com and sign in join the group International Year of Astronomy—Kingston. This is an open group to help stimulate IYA and Astronomy in Kingston and the surrounding areas.

Carrying on with our events is the January 13, 2009 public talk being given by **Dr. Sara Seager** on "Extra-solar Planets and the Search for Habitable Worlds" from 7:00 pm until 8:30 pm at Currie Hall RMC. Come out and hear what is happening on the cutting edge of Astronomy.

We are always looking for people who can come out and help man a telescope, answer questions that the public may have about Astronomy, or just talk to the public. Telescopes and binoculars are already at the Observatory, so no equipment is needed. If you would like to help out at this event or upcoming events, please send a note to:

kingston (at) rasc (dot) ca

Tune in next month for what events we have planned for the rest of 2009.★

Astronomer in the Classroom

Greg Wade & Kim Hay

Greg Wade, Project Leader,
e-mail: kingston (at) rasc (dot) ca

Astronomer in the Classroom: An important element of Kingston's IYA outreach activities is the School Outreach Program to offer free astronomy presentations to area elementary and secondary schools.

Astronomers from **Queen's University**, The Royal Astronomical Society of Canada—**Kingston Centre** and **Royal Military College** will provide presentations suitable for individual classes or large groups (e.g. school assemblies), tailored to junior and senior grades at the elementary and secondary levels. Presentations can be targeted to address particular curriculum

requirements. In addition to interesting, entertaining and interactive multimedia presentations, all IYA school visits include the demonstration of a portable astronomical telescope.

The Program runs from mid-January until the end of classes in December 2009. Contact us to participate!

Also for those members who would like to participate in the "Astronomer in the Classroom" we have IYA educational handouts (Star Finder, Sidewalk Astronomer Handbook, Mary Lou's New Telescope and Astro Cards), shown on page 9.

Contact Kim Hay at:
kim (at) starlightcascade (dot) ca
if you would like to get some of these items, and we can arrange to get these to you.★

Treasurer's Notes

Kim Hay

Donations, Centre Observatory

Thank you on behalf of the RASC Kingston Centre Executive to those members who contributed to the RASC Kingston Centre via cash donations for 2008. The Centre received this year a total of $200.00. Donations if not specified are directly deposited in the RASC Kingston Centre Observatory Fund.

The RASC Kingston Centre has for many years hoped to find and lease some land on which to build an observatory. This observatory would house our many telescopes and bring together our members for socializing, observing and using our Centre's library. Please visit the Observatory Committee's web page (see the web link listed below) for more information on what the committee is hoping to find for the centre's use.

As of December 29, 2008 (this includes our year-end amount, plus amounts that have come up to December 31, 2008 as per CRA guidelines) a total of $13,001.04.

If you feel that you wish to donate, you can do so directly to the Centre. Make your cheque out to *RASC Kingston Centre* and mail it to the Centre address. Cash donations are also accepted and a cash receipt will be issued. All donations over $10.00 are tax deductible. Tax receipts for our members who donated during 2008 will be mailed out before February 28, 2009.

To date, the status of donating to the Centre through the National Office has not been completed as per the guidelines of the CRA.

Budget

The budget is currently being worked on and will be approved by the Executive at our next Executive meeting scheduled for sometime in January 2009.

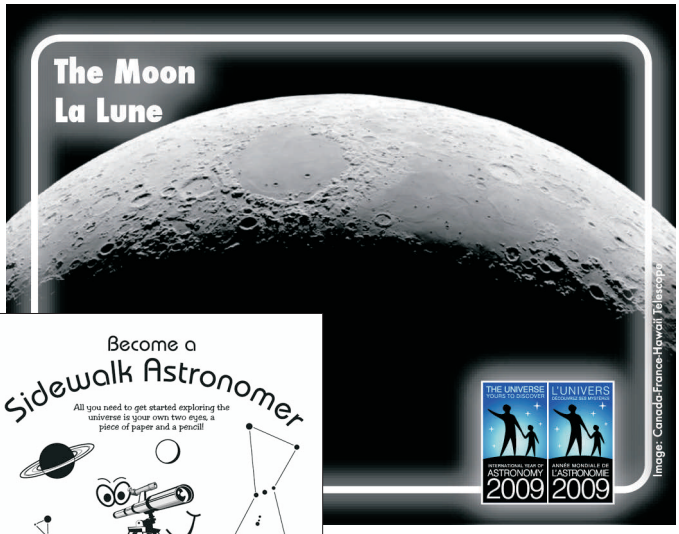
Magazine Subscriptions

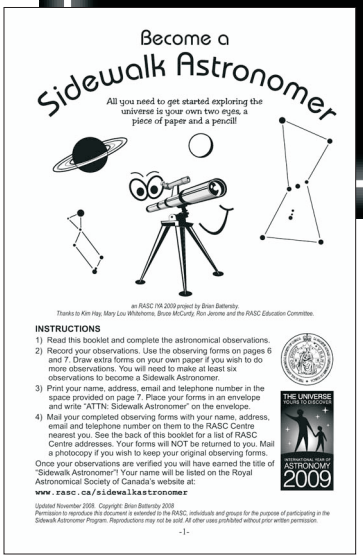
Remember that you can now renew your ***Sky & Telescope*** subscription online. Follow the instructions on your renewal notice. The Club rate is US $39.00. If you have any problems, drop me a line by e-mail: kim (at) starlightcascade (dot) ca

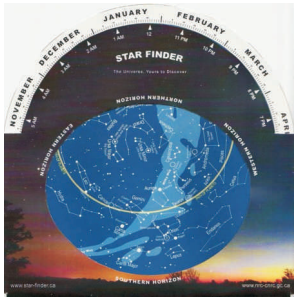
Astronomy magazine is the only subscription that you have to renew through the Treasurer now. Its price is US $48.50.★

Web Link

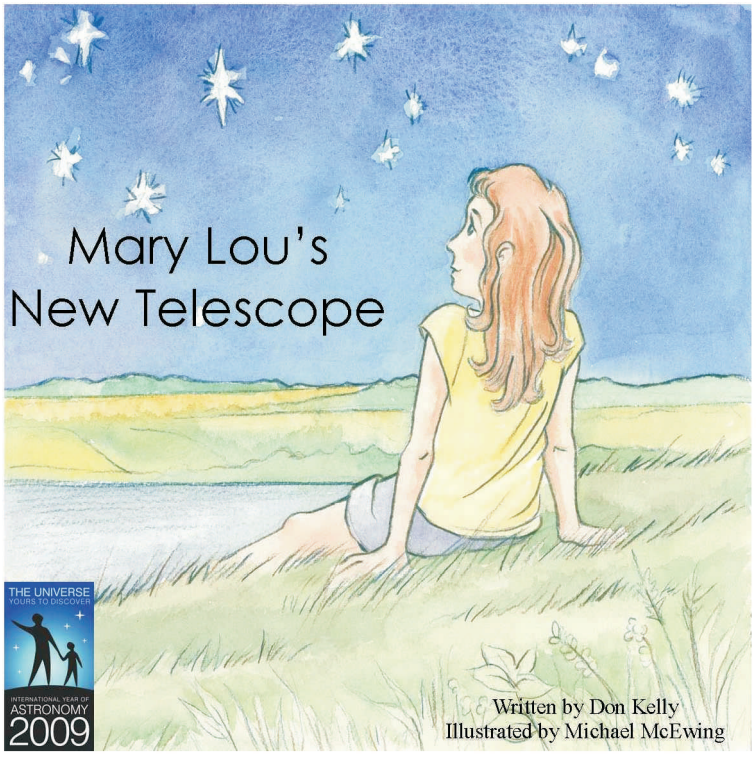
Kingston Centre Observatory Committee web page:
http://www.kingston.rasc.ca/Committees/observatory/index.php







IYA Educational Items: Sidewalk Astronomer Handbook, Astro Trading Card, Star Finder, Children's Story Book.



Winchester Observatory — 2008 Report

Walter MacDonald

Winchester Observatory marked its 5th birthday this year. Although it wasn't as productive a year astronomically (so you'll notice that this year's report is much shorter than last year's), it was still a pretty good year overall.

Variable star imaging continues to be the focus (if you'll pardon the expression) of the observatory. 2008 saw imaging on 56 nights for a total of about 500 hours. **Cataclysmic variables** are still a favourite target, but they are outnumbered considerably by the **Mira stars** currently being followed. On many nights over 200 stars are imaged—this is easy to do when all the Miras in the summer Milky Way are above the horizon. This is a rather terrifying development since, due to circumstances, I now find myself six months behind on photometry!

Clearly, 2009's first resolution is to get caught up on photometry. On the upside, once this happens I will have submitted a grand total of some 24,200 observations to the **AAVSO International Database**; the 25,000 milestone is not far off now!

Automation at the observatory continues in its existing form. There are some nights when the computer wakes me up due to cloud, but most nights are uneventful. Merlin (the Microsoft voice agent) continues to announce star magnitudes through the night; it is very pleasant to fall asleep to these periodic updates! **DW Cancrii** continues to be checked each night to watch for another big outburst like the one it had in January 2007. (Currently it is lurking in its usual 15th magnitude neighbourhood.)

One night, shortly after 11pm, the sky became too cloudy to continue imaging. When I went out to put the lid on the scope and close the dome, I could see first magnitude stars in the sky and yet it was gently snowing! It was a "starflurry," a mercifully rare phenomenon. The next night, the telescope got lost a couple of times when slewing to targets north of +50° declination. Fortunately this seems to have been just a one-night glitch, as the telescope has not had any further pointing problems.

The highlight of 2008 was my second supernova discovery. On April 16th, I found a candidate on an image of **UGC 11241**. Due to circumstances this one almost got away, but in the end the universe unfolded as it should! Thus, on April 22nd, CBET 1346 carried the announcement of the discovery of supernova **SN2008bw**. Approximately 18,700 images were scanned between my first and second discoveries. For the calendar year 2008, approximately 15,300 images were scanned. The pace of scanning was reduced in the second half of 2008 due to a lightning strike at Puckett Observatory in June (which knocked out four telescopes), but the hunt continues nonetheless.

It was not a particularly notable year for comets—no show-stoppers like McNaught or Holmes came by. Fortunately I imaged **Comet Boattini** (C/2007 W1) on August 30/31 so the year wasn't a total wash-out comet-wise.

On December 1st, the clouds parted just long enough at dusk to see the **Moon-Venus-Jupiter conjunction**, so the weather is not always uncooperative!

Though 2008 did not set a new high-water mark, it was still a good year astronomically and I look forward to 2009 with anticipation. ★

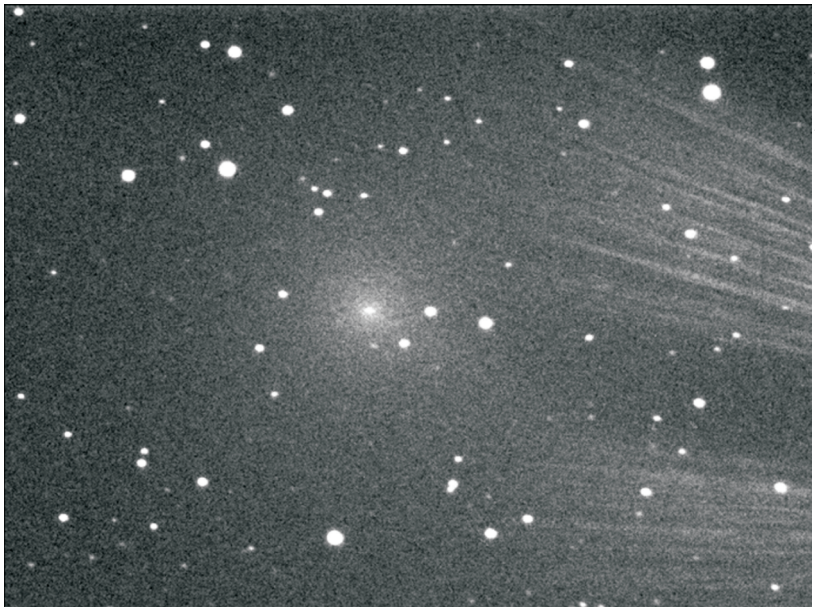
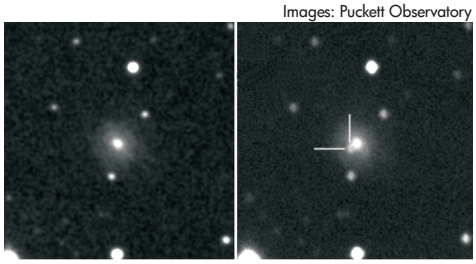


Image: Winchester Observatory

Comet 2007/W1 (Boattini), imaged on August 30/31, 2008. It was 10th magnitude at the time; the glare at right is from Hamal (α Arietis) which was ~½° away at the time. SXV-H9 image, 14 × 30 seconds, through a Johnson V filter.

Images: Puckett Observatory



Left: UGC 11241, as imaged in 2002.
Right: discovery image (2008 April 15/16) of supernova 2008bw.