Regulus

The Newsletter of the Royal Astronomical Society of Canada – Kingston Centre — 2008 December

Coming up…

RASC-KC Meetings

Stirling Hall Theatre ***"A",*** Bader Lane, Queen's University Kingston, Ontario.
Friday 12 December 7:30pm
Friday 09 January 2009 7:30pm
Meetings are co-sponsored by Queen's Physics and include astronomy lectures open to the public.

KAON Public Observing:

Queen's Observatory Ellis Hall, 4th floor from 7:30 pm to 9:30 pm
Saturday 13 December, 7:30pm
Saturday 10 January 2009, 7:30pm

List of contents

Galaxy, with Stars

NGC 2613 is a visual magnitude 10.5 edge-on spiral galaxy that is 7.6 x 1.9 arc minutes in size, and it is found at R.A. 08h 33m 24s, Dec.-22° 58' 00" in the southern constellation Pyxis. Its coordinates are given in a section of RASC *Observer's Handbook 2008* entitled "David Levy's Deep-Sky Gems."

I took this photo through a remote high magnification Deep Sky Telescope deployed in the Canary Islands by Slooh.Inc. Exposure time on 5 December 2008 was 16 seconds; at 2:30 UTC, sky rating was 4.8 on a scale of 1 to 5.

—Joseph Benderavage

Kingston Centre of the Royal Astronomical Society of Canada
Box 1793 Kingston Ontario K7L 5J6
http://kingston.rasc.ca/
Infoline: 613-377-6029
Email: kingston (at) rasc (dot) ca

From the Prez

Greetings and clear skies to all members of The Royal Astronomical Society of Canada - Kingston Centre! and some happy holidays as well.

We had our Annual General Meeting and came up two positions short for the Board of Directors. We are encouraging the forwarding of names to us at kingston(at)rasc.ca so we can approach likely candidates about being appointed to the Board for the positions of National Council Representative and Editor.
We are looking to increase the representation on the Board by attempting to completely fill the positions available. The duties that go along with each of these two positions have been mentioned ad nauseum in past emails, web pages and Regulus articles... so of course I will hit the highlights one more time! :)

Primarily you would be a Board Member, charged with the well being of the not for profit incorporated charitable organization. As such we need you to attend every meeting of the Board and fulfill the duties assigned. Interested? Let us know!

We do intend to continue publishing Regulus on the regular schedule, for as long as we can. Submissions should go to: kingston (at) rasc.ca as well.

Before going on I would like to thank John Hurley for his past service as National Council Representative and Joe Benderavage as Editor.

Dan Falk returned for a 2nd talk after the 35 minute AGM and sold us on his new book, selling us copies of his new book as well :)
We checked in at Chapters and there was at least one signed copy in the shelves if you missed his *In Search of Time.*

International Year of Astronomy will be starting with a Bang! with a lecture held at the Royal Military College:

Tuesday 2009 January 13 at 7PM RMC's Currie Hall. RMC hosts Dr. Seager for a speech on "Extrasolar Planets and the Search for Habitable Worlds."
Abstract:
For thousands of years people have wondered, "Are we Alone?" With over 300 planets discovered to orbit nearby stars, the existence of exoplanets is firmly established. Astronomers are now able to routinely measure planetary sizes, masses, and atmospheres for a subset of hot, big exoplanets. The race to find habitable exoplanets is on with the realization that big Earths orbiting small stars can be both discovered and characterized with existing technology. Professor Seager will present highlights of recent exoplanet discoveries and discuss when we might find another Earth and what kinds of "biosignatures" we are looking for.

2009 Observer's Calendars are available at $15 each at the Friday Dec 12th meeting and the Saturday Dec 13th KAON session.

We were approached by a writer for 55plus magazine and maybe we will see a published article out of it.

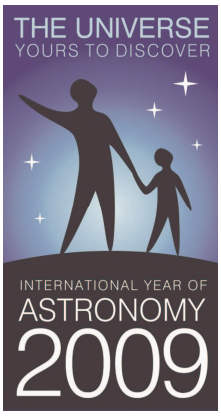
Speaking of published, congratulations to Kim Hay for authoring a new section in the 2009 *Observer's Handbook*. I will leave it to the interested to track down the page and article topic.

Congrats to member Kevin Fetter and the insane media attention a lost tool bag have generated over a week or so (Nov22-Nov28). A four-second video clip of the lost NASA spacewalking astronaut's tool bag has garnered lots and lots and lots of media attention, including newspaper articles, telephone interviews and live video interviews. Way to go! And Keep it Up!

Member Hank Bartlett has shown us the value of rubbing astronomy off on relatives. His brother Andy videotaped the great Saskatchewan fireball (http://kingston.rasc.ca/fireball) and with Hank's help, had the video up on Spaceweather that night and was featured on it until Kevin Fetter's tool bag video bumped him off :)

That's about all I have for this month. See you all at the next meeting(s)!

--
Kevin Kell, RASC-Kingston Centre President
kevin (at) starlightcascade.ca
Chairs: Equipment Loan Program, OAFTN, Observatory



IYA 2009 and the Kingston Centre

Kim Hay

With less than one month remaining,, the beginning of 2009 International Year of Astronomy is just around the corner. We will have had another planning meeting with Queen's and RMC by the time people read this.

Our kick off night will be January 10, 2009 at our KAON event, where the moon will be a main target. It will be full and bright, and what a great time to let members of the public see the craters on the moon, and its beauty.

The International kick off will be on January 15-16, 2009 in Paris, France. The RASC President and his wife will be attending the opening events with Dr. James Hesser and other students from Canada.

We will be receiving from the National IYA team our first allotment of Star Finders, Astronomy Galileo Moment trading cards, Sidewalk Astronomer Booklets, and Mary Lou's New Telescope around mid-December.

In order to record our Galileo Moments, the first WOW factor for the public, we will log our events onto the www.astronomy2009.ca web site. Take a look at the web site and read up on all the activities happening around Canada and the world. Read the newsletters and see some of the corner stone activities.

In April there will be the 100 hours of Astronomy. There is an Astronomy Kit being put together for teachers and students. One of the components of the Astro Kit is the Galileo scope which is still in the planning and fundraising stage. In this picture is the image of RASC President Dave Lane who attended the ASP conference in June 2008 in St. Louis, MO. on behalf of St. Mary's University. The telescope can be completely disassembled and used for education on telescopes and optics. The optics are comparable to, if not better than, the optics that Galileo used 400 years ago. These are scheduled to be ready by late Spring 2009.

Below is the Kingston Area (RASC Kingston, Queen's, RMC) timetable of events for 2009 IYA . If anyone wishes to help out for a bit on any of these events, send a note to kingston(at)rasc.ca and reference 2009 IYA. We are always looking for volunteers to help, so if you can spare a half hour or so that would be great.
Keep the calendar below handy so you can come and enjoy the fun, and experience a Galileo Moment.

Calendar of Kingston Area 2009 IYA Events

Date	Time	Event/Location
January 10, 2009	7:30-9:00 pm	KAON Official Canadian Start
January 13, 2009	7:30-9:00 pm	RMC Speaker Prof. Sara Seager
January 15-16, 2009		Official International Start in Paris France
February 14, 2009		KAON
March 14, 2009	7:30-9:00 pm	KAON
April 14, 2009	7:30-9:00 pm	KAON
May 2, 2009	During the daytime	Astronomy Day Venue to TBA
May 9, 2009	9:00-10:30 pm	KAON
May/June Date TBA	6:00 pm-12:00 am	2009 Relay for Life
June 13, 2009 KAON	9:00-10:30 pm	KAON
June 16, 2009		2nd Public Lecture at Stirling Hall- UC Professor Sandra Faber
July 2009	8:00 am-4:00pm	Sky Is The Limit Festival
July11, 2009	9:00-10:30 pm	KAON
July Date TBA		Open Air Movie Kristine Spekkens to coordinate
August 8, 2009	9:00-10:30 pm	KAON
September 19, 2009	Times TBA	IYA extravaganza at Lake Ontario Park. (Combined event that all three groups are working on) Two afternoon lectures – night time observing
October 10, 2009	9:00-10:30 pm	KAON
November 14, 2009	7:30-9:00 pm	KAON Queen's possibly holding short talks on History in Astronomy /observing?
December 12, 2009	7:30-9:00 pm	KAON Ending festivities for IYA 2009.

Telescope Review: Meade DS2090

by Kevin Kell

This is a 90mm refractor from Meade. At a low price of $190 from Costco, we decided to give it try. The results? a mixture of good and bad.
Focal length is 800mm; F ratio: 8.5
The skies were clear and cold at -5 deg C with a Sky Quality Meter reading of 21.01
Some of our test objects were: Capella, M31, Alberio, M57 and Jupiter.

Some of the good.
* The tripod was a better-than-normal design: stiff, strong, and not bad at all.
* The scope runs on 8 AA batteries, and one of the first things to add would be an external power source and jack. It did complete an hour indoors and an hour outdoors and is still going strong. Drive motors are a little loud, but not too annoying.

* It comes with Autostar2 which means no GPS. It needs to be aligned to the north as well as possible with the scope horizontal. Power it up and it goes into a two star alignment process. Pointing accuracy was not too bad. Using a 40mm superplossl eyepiece we normally got within the field of view of the target object. Tracking was a little below average, with objects not staying in the field for more than a few minutes at x50.

Some of the bad.
* The telescope came equipped with five Meade MA eyepieces. The first one came apart in my hands. I've had Meade MA eyepieces in the past and was absolutely not impressed by them at all. What a waste, and a potential disaster if they turn a person off the hobby.

All of them were marginal to bad at best: The 25mm came apart with threads stripped between the eyepiece and the plastic 5/4" mount. The 20mm was OK, as was the 17mm. The 12mm also came to focus and revealed two equatorial bands on Jupiter low on the horizon. The 6mm did not come to focus and had very poor eye relief. Out with those MAs and in with our own 5/4" superplossls.

* Refractors design issue.
This is one of the items we forgot about from the old old Tasco days. Using a refractor, when you want to look at something high up, you need to get way down low... almost down on the ground to get the eyepiece at eye level. The cold dark wet ground.

We spent the rest of the observing session checking out Jupiter until it was down in the muck, and packed it in.

The single one arm mount design is always a thought provoker... is one arm as steady as a two arm design? No. Is it good enough? Could be. We did detect some wobble when tracking at higher powers > x50.

The end results/recommendation:
I'm on the fence. The price was good at $190 and you get a 90mm refractor telescope. But there were enough little things (plus the big thing: eyepieces) that the balance came out pretty even.

At this price this is the best refractor I have seen and used. But at this price I would probably still recommend going for a 15cm Dobsonian. If you already have one and were looking for something that tracks, then this is a good introduction.

We are looking forward to doing some lunar observations at a little better than x50 for some time...maybe enough to do some sketching. And another test is to try some film camera tracking with it, once we can find the cameras :)

Kevin Kell
starlightcascade.ca
From Starlight Cascade Observatory & Gardens
Just outside Yarker Ontario
RASC-Kingston Centre President

Calculating Local Sidereal Time For 2009, by Leo Enright

At our June 2008 Centre meeting I explained the basis of Sidereal Time, i.e. 'Star Time', as that which tells us the Right Ascension of the stars, the planets, or the other celestial objects currently crossing the local meridian, and therefore, in the best location, among all the objects in the sky, for observing at this time. At that meeting, I gave an explanation of both the very accurate formula to be used in precisely calculating Local Mean Sidereal Time (LMST) for 2008, and also a second, less precise method of determining Sidereal Time using only mental arithmetic. Subsequently, at the suggestion of a Centre member, I wrote a summary of both methods for an article that appeared in Regulus, September 2008, on page 8. Here I will merely repeat the effort for the highly precise formula of determining Sidereal Time in the year 2009. The 'mental arithmetic method' of determining Local Sidereal Time remains the same perennially, and those who have forgotten it should refer to the newsletter article of three months ago. Since knowing your LMST can be such a boon in planning any observing session, and since it is essential in setting the RA setting circle on applicable telescopes, I strongly suggest that the following information be photocopied, or otherwise retained, at the place where you plan your observing sessions.

A normal or scientific calculator needs to be employed when you use this formula. This formula may be used at any time in the year 2009. Besides the calculator, you need only a calendar or chart showing the number of the "day of the year". The formula uses only hours and decimal-fractions thereof. After the answer is obtained, a conversion is made to "hours, minutes, and seconds". This conversion is normally done simply by pressing the "DMS" button on the calculator. The four parts of the formula are as follows:

1. The Local Sidereal Time at 0h UT on Day 0 of the applicable year at 0 degrees Longitude (that is, at Greenwich). (Day 0 is actually December 31st of the previous year.) This is the part of the formula that changes each year.
2. The amount by which Sidereal Time GAINS on UT per day, multiplied by the number of days in the year up to the day being considered. The amount of the gain is slightly less than 4 minutes, but as with all parts of this formula, it must be expressed in hours and decimal-fractions thereof.
3. The amount that Sidereal Time GAINS on UT per hour, multiplied by the number of hours "in the final day with which we are concerned". (Since it is a very slight GAIN on the UT, expressed in hours, the number will be very slightly more than 1.)
4. An amount of time to be subtracted, depending on the observer's longitude west of Greenwich.

The Formula: Where d = the day of the year, and t = the time in UT, the formula for Local Mean Sidereal Time at my location in 2009 is as follows:

LMST = 6.652710576 + 0.0657098244d + 1.00273790934t - 5.11123737

Obviously this formula is designed to be extremely accurate, and it assumes that I know quite precisely my longitude. For an observer who lives in the Kingston area and knows accurately her/his observatory's longitude, the fourth term of the equation may be recalculated. An observer in the Kingston area who wishes just to use the above formula as it is, will still have a good degree of accuracy. I am confident of a general accuracy to within a hundredth of a second, in the correct use of this formula, whereas the use of the "mental arithmetic method" of sidereal time calculation (as explained in the September 2008 newsletter) cannot guarantee an accuracy of greater than couple of minutes. This formula is one that definitely SHOULD be used by those who have a sidereal clock in their observatories, and want to check it regularly, or to reset it following a power failure.

There is a similar, though less elegant and more cumbersome, formula for LMST in the *Observer's Handbook 2009* on page 50. Because of having only 4 significant places of decimals, it is considerably less accurate. Because it requires using a different number in the first part of the equation for each of the 12 months of the year, it is also much more cumbersome to use than the formula I have given above.

I trust that an effort to understand Sidereal Time and to use this formula on a regular basis will greatly help regular observers in planning their observing sessions. Using this formula and/or the "mental arithmetic method" of calculating LMST will speedily lead good observers to the most suitable objects on their star charts for locating in the sky during their next observing session.

I wish you careful and accurate planning and the successful execution of your observing plans.

National Council Meeting Motions of 16 November 2008

These are unofficial flash minutes prepared by James Edgar, Recorder, of the National Council Meeting (NC084), 2008 November 16.

MOTION 08401
Moved by Mary Lou Whitehorne, seconded by Barry Matthews, that the Agenda be adopted as amended (inclusion of LPA Committee).
MOTION 08401 was CARRIED

MOTION 08402
Moved by Mary Lou Whitehorne, seconded by Charles Darrow, that the Minutes of National Council Meeting NC082 be adopted as corrected (change name of "Greg Tully" to "Brent Tully").
MOTION 08402 was CARRIED

MOTION 08403
Moved by Mary Lou Whitehorne, seconded by Frank Tomaras, that the Minutes of National Council Meeting NC083 be adopted as distributed.
MOTION 08403 was CARRIED

MOTION 08404
The Education Committee moves that Council approve $2500.00 in advance of the Education Committee´s budgeted requested amount of $3500.00 for the 2008/2009 year, to sponsor the Canada Wide Science Fair (CWSF), which is being held in Winnipeg in 2009 for one Junior and Intermediate Award.
There was some discussion about whether this should done annually, to which the response was that this was more a matter of timing than continuity.
MOTION 08404 was CARRIED

MOTION 08405 Moved by Mayer Tchelebon, seconded by Barry Matthews, that an amount equal to all iMIS development costs, including remuneration, be transferred from the Millman Endowment Fund to unrestricted equity, for the years 2008 and 2009.

MOTION 08406
Don Town moved, seconded by Gary Boyle, that the amount "equal to all iMIS development costs" be limited to $30,000 for 2008.
MOTION 08406 was CARRIED
MOTION 08405 was CARRIED as amended

MOTION 08407
Moved by Mayer Tchelebon, seconded by Mary Lou Whitehorne, that the following be implemented, effective January 1, 2008:
1. The Life Member Fund not receive any allocations of investment income;
2. That the Ruth Northcott Fund, the Millman Endowment Fund, the Feibelman Fund, and the Centre Project Fund receive an annual allocation of investment income equal to each Fund´s beginning balance for the year, multiplied by the average yield of the RASC´s investment portfolio for the year; and
3. That this allocation be applied in the same manner if the net annual investment income is negative for the year, whereby the Special Funds would, in effect, return some of their previously allocated income.
MOTION 08407 was CARRIED

MOTION 08408 Moved by Barry Matthews, seconded by Rob Dick, that the major portion of the RASC National Library be donated to the Canada Science and Technology Museum (CSTM) to form the "Royal Astronomical Society of Canada Collection" (RASC Collection) within the library of the CSTM, to

complement their holdings of historic Canadian astronomical instruments. The RASC will retain its rare book collection, and copies of any and all works published by the National Society, its Centres, and its predecessor bodies. The RASC should also retain any works issued by other bodies to whose pages RASC members have made significant contributions. These will be transferred to our Archives.
I further move that any books, which are residual to the formation of the RASC Collection or to our Archives, be assigned, through either sale or donation, to further the goals of the Society.
MOTION 08408 was CARRIED

MOTION 08409
Moved by Barry Matthews, seconded by Peter Jedicke, that the Society grant permission for "Looking Up," Peter Broughton´s acclaimed history of The Royal Astronomical Society of Canada, to be digitized and made available for free Web distribution.
MOTION 08409 was CARRIED

MOTION 08410
The Property and Executive Committees move that the Executive Committee take the necessary steps to sell our property at 136 Dupont Street, including modest repairs as recommended by a Realtor, and subsequently move the National Office to suitable leased space in the GTA. The timing of the sale and move is to be at the discretion of the Executive Committee.
MOTION 08410 was CARRIED

MOTION 08411
Moved by Gary Boyle, seconded by Craig Levine, that the meeting adjourn.
MOTION 08411 was CARRIED

The meeting adjourned at 1535 ADT

Respectfully submitted, James Edgar, Recorder

Report from the National Council Meeting of the RASC Sunday 2008 November 16th

by Kevin Kell

I know that many (most) of you don't care for national level politics in as much most of it does not apply to you the member, or even the Centre. But sometimes it does and we at least have to keep watch on. monitor and participate at least a little. So this is a quick update on what happened and if you have any questions or interest, please do not hesitate to contact me.

The beginning. ick ick ick. Politics is ugly with lots of people not reading reports, not understanding the issues, exaggerating their (mis)understanding of written reports and estimates by experts. I could go on and on.

This was a teleconference. The next meeting is scheduled for Saturday March 28th, 2009 in Toronto in person or by teleconference.

The high points of this meeting:
The Centre will receive a signed copy of the fee collection agreement back from National. This will enable them to continue to collect fees and forward them to us and reestablish the forwarding of donations to the Centre.

No progress on finding a new national auditor.

The IYA Starfinder is wildly popular.. print run up to over 75k due to cash orders from centres and others over and above. The big major projects are finalized and about to go to press. We are still expecting to see some in our hands by the end of this year.

The iMis membership management software development costs past and future 2008 to come from the endowment fund and not the unrestricted funds, up to $30k.

The national library will be given away to the National Museum of S&T in Ottawa.. they pay for shipping and will establish a RASC Collection. We retain our Archives and any books donated specifically to us.

Property issue. Over one hour of debate to sell the property. Finally the vote was in favour 23 to 8 against and 1 abstention. Dupont Street will be sold, sooner than later in this real estate and financial climate. The sale is expected to net near $500k. We will be renting office space (more appropriate to our needs) for the short term (like 90%+ of other charities). There are pages of reports detailing the extent of repairs and renovations needed and in my mind would leave us broke with a rental income that barely covers the costs and nets around $1-2k/year. Maybe.

Most of my top of the message comments were directed at this debate. Three real estate appraisals said $515k to $530k in our current space and time with a conservative estimate of clearing $450k, reinvesting that at our current best rate of 3% to help fund the rental.Some councillors were misrepresenting that the report said 5% interest and that in reality it was only 3% so the interested earned in the report was going to be less. arrg! That we would only clear $300k? What basis of reality are these people in? I will write up a more calmed down version for December Regulus :) (Note: this IS the more calmed down version :) I do have a list of the recorded vote and I was thinking of approaching some of these folks and asking why? Another big issue is Committee protocol. It is implicitly understood by me and other councillors that any Motion or Report that a committee sends to national Council should at least been agreed upon and possibly even voted on by members of the Committee(ie the Committee chair is not god and does what they will against the members of the committee). That was not the case in this case.

I brought up the point that National Councillors should demand that committees follow some protocol which should include votes by committee members on motions brought to council and reports to council, following a due diligence concept by Councillors. When they delegate authority to a committee they should expect some level of accountability. Nothing happened. I suspect a motion will need to be made at the next meeting to this effect

Failing that.. how does Council fire a committee chair? Can they? Do they have to wait for the next GA? Will anything ever change?

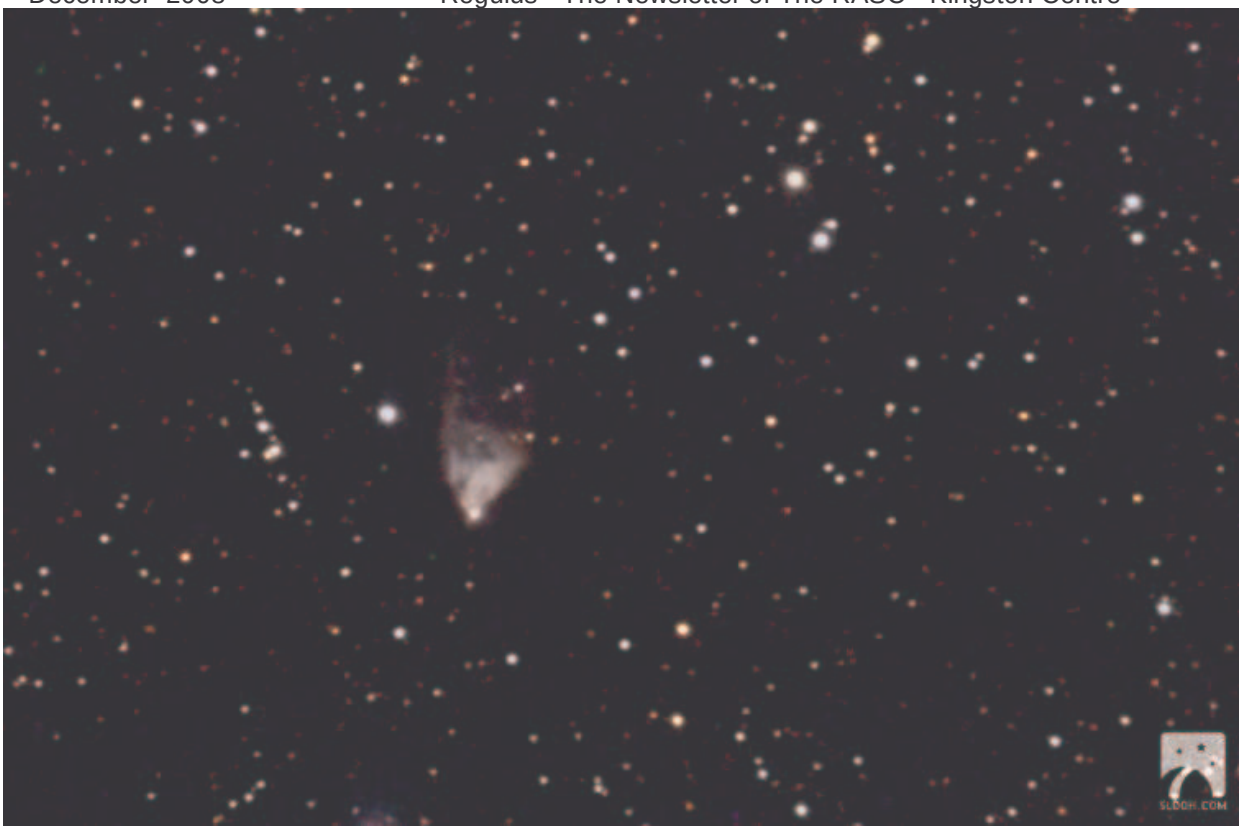
RASC Awards deadline for filing nominations is December 31st.

Nothing in the Journal this issue but they will attempt to print a reminder in the December Bulletin, along with requirements and procedures.

That's it in closing. Nothing new on the Life Member issue.

The National Executive Committee will be busy with the sale of the property and locating new rental space for the foreseeable future.

Kevin Kell, RASC-Kingston Centre President



I took this photo with a remote high magnification Deep Sky Telescope deployed in the Canary Islands by Slooh.Inc. Exposure time on 8 December 2008 was 6 minutes 50 seconds; at 06:36:50 UTC, sky rating was 3.9 (1 to5).

BELOW: Cetus Bubble Nebula (NGC 246) is a mag 10.9 planetary nebula in Cetus, 225 arc seconds in size; Its coordinates are R.A. 0h 47m 0s, Dec -11° 53'. These co-ordinates were found in "Finest NGC Objects" section of the RASC *Observer's Handbook 2008*.

ABOVE: Hubble's Variable Nebula (NGC 2261) is an emission/reflection nebula in Monoceros; size is 3.5' x 1.5' and its magnitude varies. These co-ordinates were found in Finest NGC Objects section of the RASC *Observer's Handbook 2008*. — Joseph Benderavage

I took this photo using a remote high magnification Telescope deployed in the Canary Islands by Slooh.Inc. Exposure time on 5 December 2008 at 21:34:07 UTC was 4 min. 7 sec. and sky rating was 5.0 (1 to 5). —Joseph Benderavage

Gleanings from Regulus of 35, 30, and 25 Years Ago, by Leo Enright

Whenever I examine my collection of newsletters from 35 or 30 years ago, I am reminded that our group was then somewhat smaller than at present and certain aspects of our 'modus operandi' were different, but there was always the same dedication to the perennial ideals of a well-focussed astronomy club, pursuing a fascination with the stars and planets and sharing that fascination with others.

Our newsletter of thirty-five years ago was not yet called Regulus, but in the month of November 1973, I did receive two copies of the club's newsletter, which, like most others in those days, was mainly used as a reminder about upcoming meetings and other activities for the group. It was called simply "Queen's University Astronomy Club Newsletter", and it arrived with first class postage in the form of a 6-cent stamp. (The 8-cent stamp did not appear until February of the following year.) The meeting being announced in the first newsletter of that month was that of November 13th, 1973, and it was a talk by Dr. W. Y. Chau of the Queen's Physics Department on the topic "Black Holes". It was an excellent talk, at what was the right level for the expertise of the group. I still have the notes from that talk. The newsletter also contained a reminder from Sandy MacHattie, the chairman of the Observing Group, about three important upcoming opportunities for members of the group to witness significant events. Firstly, there were plans to go to Ellis Hall in the early morning hours on Saturday November 10th to observe the Transit of Mercury, which would already be in progress when the sun rose that morning. Secondly there was information about the ephemeris of Comet Kohoutek being published with the latest issue of the Journal, and Sandy's hope was that members of the group would get to observe an object that was much in the news. Thirdly, he gave a notice about the upcoming annular solar eclipse which was to be visible locally shortly after sunrise on December 24th. On the second page of the newsletter there was a notice of welcome to two people who had recently become new members of the group – people who would also be members of the RASC – Kingston Centre. Hans Behrmann Jr. was one, and I was the other. [Hard to believe that it has been more than thirty-five years!] A tally of the membership for that year was given. In the "previous year" (with the "year" being defined as the university's academic calendar year, i.e. from September to April,), that is 1972-1973, our club had had 31 members, 11 of whom were RASC-Kingston members, and "this year", that is, 1973-1974, we had the excellent news of a considerable jump in membership – up to 43 members, 14 of whom were RASC-Kingston Centre members. (The non-RASC members were termed "Queen's University Astronomy Club" members.)

The second newsletter of November 1973 announced the topic of the meeting to be held in Ellis Hall on November 27th. A new film would be shown, one entitled "Crab Nebula", a film that had been recommended by Mrs. Mary Grey, at that time the secretary of the Ottawa Centre, and later the National President of the RASC. The film had been well received when shown at an Ottawa Centre meeting. The newsletter also included a notice about the availability of the new Observer's Handbook 1974, which could be purchased for $3.00. Two reports from the Observing Group were interesting to read (especially for anyone familiar with the kind of weather we often have in the month of November). Members must have heeded Sandy's invitation in the previous newsletter, doubtless reinforced later at the meeting. A member of the Observing Group, Jamie Myra, reported that about 10 members of the club appeared at the Ellis Hall observatory on the morning of Saturday, November 10th, and they were able to observe the transit "quite satisfactorily". The solar image was projected on a screen, and "Mercury, appearing as a black dot, moved across the disk. The final contact was observed under good cloud conditions (i.e., their absence!) at 8:18, as predicted by the ephemeris." As Jamie pointed out several members arrived much earlier than 6:30 a.m., in fact, at 5:00 a.m. in order to observe before morning twilight set in. Saturn proved to be the main object of interest. It was also reported that Sandy MacHattie observed Comet Kohoutek when he was out observing on the morning of Saturday, November 17th, and that he hoped to continue observing it. Besides the Ellis Hall Observatory, the Observing Group was using a site west of Kingston on Airport Road.

Thirty years ago, in November and December of 1978, our newsletter, of which I was the editor, was mailed out monthly to our members with a 14-cent stamp (4 cents more than the stamps used the previous year). It still bore the "generic name" – "The Newsletter of The Royal Astronomical Society of Canada - Kingston Centre and the Queen's University Astronomy Club". Though our newsletters of those days had fewer pages than in later years, they still reported very important news for our members; they had become real "organs of

communication" and were much more than mere announcement pages for upcoming meetings and club events. The November 1978 issue reported the discovery of a nova by a remarkable observer who soon became a member of our Centre. It was Warren Morrison of Peterborough who discovered Nova Cygni 1978 on Saturday September 9th. At 8:47 p.m. EDT that evening as he was starting his regular observation of the famous variable star, SS Cygni, he suddenly noticed a "new star" nearby at magnitude 6.8. In a case that was strangely reminiscent of a discovery event in Alberta many years before, Warren, following the established protocol, tried to send a telegram to The Central Bureau for Astronomical Telegrams in Cambridge, Mass. – at 10:29 p.m. that night, less than two hours after his discovery. However, very unfortunately the telegram was not delivered until Monday morning, September 11th, and in the meantime, Peter Collins of Mount Hopkins University in the United States, reported and was credited with the discovery of Nova Cygni, even though Warren had seen the nova FIVE HOURS before Mr. Collins did. [To this day you can ask knowledgeable astronomers like David Levy about the nova in Cygnus in 1978, and be told that it was discovered by Warren Morrison of Peterborough!]

The December 1978 issue's feature article was one I wrote about safe solar observing, and it was accompanied by several drawings I had done of sunspots and sunspot groups from my observations on November 19th and November 26th. At our third Centre meeting in the month of November (You read correctly; we had meetings on November 2nd, 16th and 30th, since in those days, the rule was: "Meetings on alternate Thursdays at 8:30 p.m. in Ellis Hall, Room 222."), we unanimously passed a motion to purchase a 10-inch mirror and start construction of a telescope for our Centre. The project was to be completed before May of the following year. It was seen as the possible realization of a dream that had been pursued over the previous decade. The committee to see the project to completion was to be made up of David Levy, Doug Baker, and Mike Payette, and I had indicated that I, too, would assist with the project. At the same meeting, another project was started – one that continues to this day – 30 years later. It was what was called 'The Nova Search Project'. David Levy was a strong promoter of the idea. Previously, as a member of the Montreal Centre, he had been part of such an endeavour, and he saw great value in such challenges as effective ways of promoting observing among our members – of fostering, not just any observing, but 'a regular and systematic search of a well-defined area of the sky'. [This program has continued to the present day, though the name was changed to 'The Sky Search Program'. It is still found on our Centre's website, and participation is encouraged now as strongly as it was when we decided to initiate the program 30 years ago, on November 30th, 1978.] The December 1978 newsletter also reported on plans to discuss, at the next meeting, our having a 'Christmas party' at David's place in Amherstview on December 21st. Our group had already been to his place on November 9th for a wonderful "Meet My Collection" Party, one at which David introduced Centre members to his growing collection of fine telescopes. (With the recent acquisition of 'an absolutely priceless, and true classic'– an Alvin Clark refractor, David's telescope collection was, by then, up to 14 in number, but 14 is a very small fraction of what the collection became within less than a decade after that date.)

Twenty-five years ago, in November and December of 1983, I was still the editor of our newsletter which was, by then, called Regulus. (The adoption of the name and the rationale for it were explained in a previous instalment of this column.) By then it was appearing once every two months, and each issue was much larger than in previous years. Several serialized articles were published. In the November/December 1983 issue, there was the third instalment of David Stokes' excellent article on 'The Islamic Lunar Calendar'. The two initial instalments had also appeared in Regulus. The series was based on David's fine paper on the same topic delivered at the General Assembly of the RASC in Quebec City in May of 1983. As a recognized authority on the matter of time-keeping in the Islamic world, David had previously had a paper on the topic published in an internationally recognized journal, and having his paper appear in Regulus was a significant event for our newsletter. That newsletter also carried the news of a very important discovery by our most recognized member, David Levy, who by then was living near Tucson, Arizona. On the night of November 29th-30th he made an independent discovery of a very faint comet, but by a quirk of history, he never received due credit for his effort, even though he has by now tallied 22 comets that have his name attached to them. On that night using his 16-inch reflector, he detected a very faint, hazy object near the border between Aquarius and Capricornus, and noted it as being at magnitude 12.5. Within an hour he detected motion, recorded its position as R.A, 21h, 01m; Dec.-30d., and sent a report to the Central Bureau for Astronomical Telegrams. The words

David heard from the Bureau's Assistant Director were both heartening and disappointing. His original discovery data would be very useful, but his name would not be attached to the comet. Like dozens of other comets, it was first spotted when extremely faint by IRAS, the InfraRed Astronomical Satellite, spotted just before that satellite's coolant supply was exhausted and it ceased operation on November 21st. (It was also spotted, probably photographically, by Hartley and was to be named IRAS-Hartley.) David had not been as fortunate as George Alcock of Britain who had his name attached to another amazing IRAS comet earlier that same year. (How can any of us forget the amazing brightening of Comet IRAS-Araki-Alcock in May, 1983? However, this time, David would not be as lucky as George had been; this one would not have a 3-pronged name.) David never became overly concerned about this matter; he just proceeded to discover many more faint comets in the months ahead, and his name was, of course, attached to many, eventually making him the most prolific living (human) visual comet hunter. This event 25 years ago showed us that there is a "story" connected with every comet discovery, and for our most famous member, now our Honorary President, it is often a very memorable "story" indeed.

It is worth noting also that, in that newsletter, two new books were recommended: Terence Dickinson's Nightwatch and The Cambridge Deep-Sky Album by Jack Newton and Philip Teece. A newly named lunar crater was announced in that newsletter also, and it was named after a Canadian astronomer who should be especially well known by Kingston Centre members, both then and now. It was Crater Beals, located quite near the limb of the moon (and sometimes virtually impossible to see because of lunar libration), named after Carlyle Smith Beals, who was the leader in the research done in the mid-1950s at the Holleford Crater, to establish definitively that it was indeed a meteorite impact site. In fact, at the Kingston Centre meeting of December 9th, 1983, I gave a talk on the topic: "When Is It Possible to Observe Crater Beals?"

As always, the reviewing of the events in our Centre from 35, 30, or 25 years ago are the basis for a feeling, and a recognition, of the debt and the tribute we presently owe to the dedicated amateur astronomers who were the inspiration of the group in those days.

A Thank You to RASC-KC

Hi to everyone at the Kingston centre RASC. Thank you so much for the lovely get well card that you sent to me. It delivered much appreciated good cheer!

Indeed I hope to be 'jumping puddles' soon. My cast is now off and I started physiotherapy. The down side is that I am still not supposed to put any weight at all on the foot until after Christmas, which means lots of taxis, hopping about on one leg, and crutches for a while yet.

So again, thank you so much for your thoughtfulness and I hope to see everyone soon.

Judith

--

Dr. Judith Irwin
Dept. of Physics, Engineering Physics, and Astronomy
Queen's University
http://www.astro.queensu.ca/~irwin

Volunteering in the Centre, by Susan Gagnon

National Council Representative.

There are many seasoned members of the Centre who would disagree with my next statement. One of the best jobs for a new member or a member new to participating in Centre business is National Council Representative. It was the first executive position I occupied and it gave me an introduction to the RASC that I found invaluable. The main task is to attend the Council meetings in person or by telephone, report back to the Centre on discussions that matter and represent the centre's interests in voting on National issues. The benefit to the Centre is obvious but for the volunteer the great part is meeting RASC members from across the country. There are routinely one spring meeting, 2 GA meetings and one fall meeting.

Last month's Regulus gave the bylaw content on the position. If you read between the lines you may be able to tell that this can get a bit boring. Believe me when I say that the interesting bits and the chance to meet other RASC members make it well worth tolerating.

Perhaps you are unfamiliar with the **travel reimbursement policies set at the national level?**

I have chosen the main points but you can read it all at the National website under the members section, Policies and Procedures, RASC Manual.

National Council Representatives are eligible for reimbursement at the rates of 75% for one trip, 50% for a second, and 25% for a third (not necessarily in chronological order).

Travel expenses eligible for reimbursement are as follows:
a. Nothing, if the applicant lives within 100 km driving distance of the location of the meeting;
b. The least of the following, if the applicant lives greater than 100 km from the meeting location:
i. $0.15 for each km driven in excess of 200 km for travel by automobile, if the return driving distance is less than 1000 km;
ii. the lowest return bus or rail fare, if the one-way duration of the journey is less than 6 hours;
iii. the lowest return excursion airfare that is available 30 days prior to the date of travel.

An **accommodation allowance** of $75 per night for up to two nights for travel to a non-GA Council meeting, and $50 per night for up to three nights for travel to a GA, is claimable. Billeting is encouraged, when possible, to avoid incurring these costs. When **teleconferencing** is made available for Council meetings, members are encouraged to consider remote participation. Members are further encouraged to arrange to meet at common locations to reduce the number of teleconference nodes. The National Secretary will make the appropriate arrangements with

the teleconference provider, such arrangements will be communicated to members along with the Notice of Meeting and/or the Agenda, and the cost of the teleconference arrangements will be paid by the Society. It is anticipated that reimbursement will not be necessary because arrangements will be made so that remote participation will not require members to bear any expenses.

Most years there are Centre members attending GA meetings so that if this is not possible for you there will be easy alternates available and the Centre will still be represented. Spring and fall meetings are usually held in Toronto.

November 8, 2008 KAON

The moon was a no show but that was somewhat expected. There were 67 visitors to the session and the warm room was packed for the talk. Pascal Elahi, in his final year of his PhD program presented a talk titled 'Future Sky'. Here he covered the appearance of our aging sun, the Milky Way's eventual collision with M31 and the gradual 'fade to black' of the universe as we know it...given current models. Exciting and dismal! Nice job Pascal!
Volunteers for the evening for the Queen's team: Pascal, Joel and Johnathan, and for RASC: Steve, Kim, Kevin, David M., Susan and the all sky chart provided by Hank. As always there was much chat after the talk and the members of the public like to discuss astronomy and equipment with the volunteers and each other. There are quite a few regulars and we enjoy seeing them. These are great sessions and if you can get out to one I am sure you would enjoy it. It is always a boost especially those weeks when you have not been able to indulge in the hobby.

Susan Gagnon
KAON Chair for Kingston Centre.

Regulus

The Newsletter of the Royal Astronomical Society of Canada – Kingston Centre — 2008 December

RASC-KC Board of Directors

President: Kevin Kell
Vice President: Susan Gagnon
Secretary: Steve Hart
Treasurer: Kim Hay
Librarian: David Maguire
Editor: Joseph Benderavage
National Council Rep: John Hurley

2007-2008 Committee Chairs/Coordinators:

Astronomy Day: vacant
Amateur Telescope Makers: Doug Angle
Awards: Kevin Kell
Banquet: vacant
Education: vacant
Equipment Loan: Kevin Kell
Fall 'N' Stars: vacant
KAON: Susan Gagnon
OAFTN Instructors: Doug Angle, Brian Hunter
Observing: vacant
Publicity: vacant
Relay for Life: vacant
Responsible Lighting: Kim Hay
Sky Is the Limit: vacant
Webmaster: Walter MacDonald

The Royal Astronomical Society of Canada—Kingston Centre

Newsletter Submission Info:

I can take most common formats, although I prefer plain text. Pictures should be sent as image files in attachments separate from the articles. Please avoid the use of capitals, asterisks etc for formatting, as I use the publishing software's formats for this kind of emphasis.

E-mail:walter2 (at) starlightccd.com

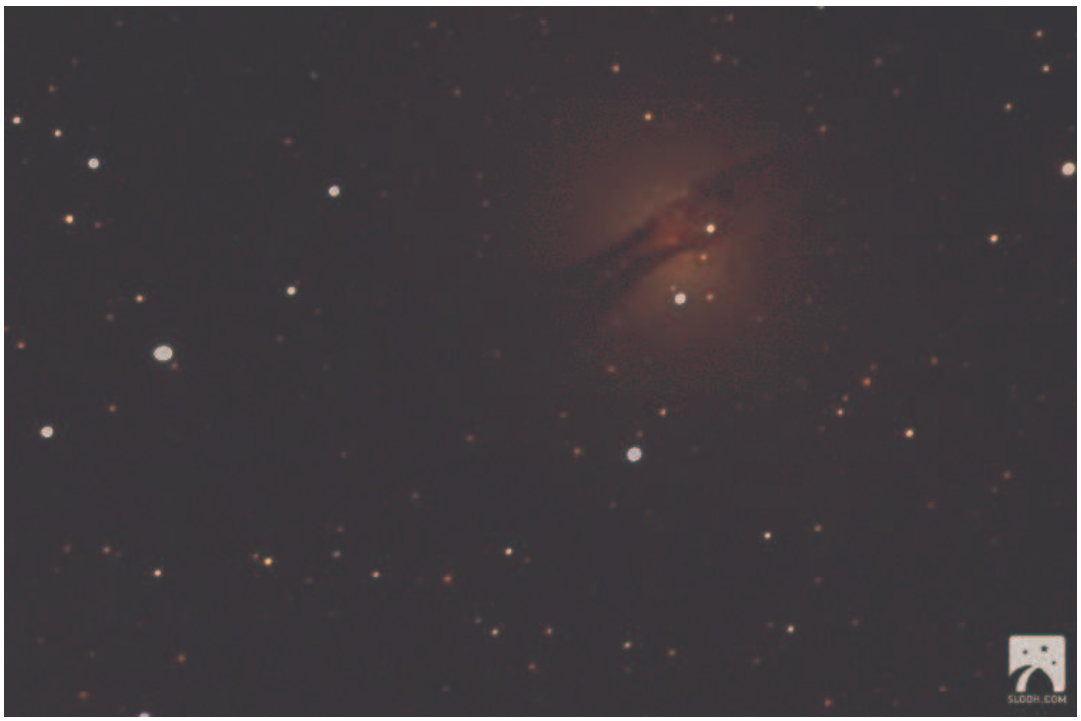
Post:

2008 Publication Deadlines

For the month	**(Deadline)**
January 2009	(December 30 2008)
February 2009	(January 30 2009)

Subscriptions: Members of the Kingston Centre receive *Regulus* as a benefit of membership. Advertisements are free to members of the Centre. Commercial advertising should be in electronic format. Contributions are more than welcome. Submitted material may be edited for brevity or clarity. Thanks to Angus Benderavage for technical assistance.

Centaurus A (NGC 5128) is a mag 7.89 Type S0 pec active galaxy in Centaurus. Its size is 26' x 20' and its coordinates: 13h 25m 27s, -43° 01' 09", derived from the RASC *Observer's Handbook 2008*, from the Finest NGC Objects section



I took this photo through a high magnification remote telescope deployed in the Canary Islands by Slooh.Inc. Exposure time on 8 December 2008 was 9 minutes, 32 seconds; at 6:29 UTC, sky rating was 3.9 on a scale of 1 to 5.

—Joseph Benderavage

Kingston Cosmic & Events Calendar, **December 2008—January 2009,** by Joseph Benderavage

Date Events Local Time

DECEMBER 2008

01- *Jupiter* 1.3° N of Moon, 10:00; *Venus* 0.8° S of Moon, occultation at NE tip of Canada, 11:00
04 - Pallas at opposition (m=7.4)
05 - First Quarter Moon, 16:26; *Mars* in conjunction with Sun
11 - Moon 0.7° N of Pleiades, occultation, 04:00
12 - **Regular Meeting,** Stirling "A" 7:30-9:30 pm;
12 - Full Moon (largest in 2008), 11:37; closest Moon perigee in 15 years (356 566 km),17:00, **Large tides**
13 -*KAON* Observing, Ellis Hall Queen's Observatory *7:30-9:30 pm*
13 - Geminid Meteors peak, (ZHR=120), 18:00
15 - Moon 1.4° S of Beehive (M44), 14:00
18 - *Saturn* 6° N of Moon, 22:00
19 - Vesta stationary; Last Quarter Moon, 5:29
21 - **Winter solstice**, 7:04
22 - *Pluto* in conjunction with the Sun; Ursid meteors peak, 03:00
25 - Antares 0.1° S of Moon, 02:00
26 - Moon at apogee (406 601 km, farthest this year), 13:00; *Venus* 1.5° S of *Neptune* (46° E), 20:00
27 - New Moon, 07:22
28 - *Mercury* 0.7° S of Moon, 23:00
29 - *Jupiter* 0.6° N of Moon, 04:00
31 - *Mercury* 1.3° S of *Jupiter* (18° E), 00:00; *Mercury* 1.3° to left of *Jupiter* visible soon after sunset

PLANETS for December: *Mercury:* very low in SW in evening twilight, late in month; *Venus:* low in SW in evening twilight; *Mars:* not easily observed; *Jupiter:* very low in SW in evening twilight, sets in WSW less than 2 hours after sunset; *Saturn:* rises in E before midnight, high in S before dawn.

JANUARY 2009

01 - **International Year of Astronomy (IYA)** begins; *Mercury* 1.9° left of *Jupiter* visible just after sunset
02 - *Mercury* 2.7° to left of *Jupiter* visible soon after sunset
03 - Quadrantid Meteors peak (**Z**entihal **H**ourly **R**ate=120), 08:00
04 - First Quarter, 06:56; *Mercury* greatest elongation E (19°), 09:00; Earth at perihelion (147,099,100 km) at 10 am: Lunar Straight Wall visible, best in E of N.America, 6 pm.
09 - **Regular Meeting,** Stirling "A" 7:30-9:30 pm;
10 - *KAON* Observing, Ellis Hall Queen's Observatory *7:30-9:30 pm;* Canadian Launch of **IYA** 2009.
10 - Full ("Wolf") Moon, 22:27; closest lunar perigee of 2009
12 - 40 Harmonia at opposition (m=9.6)
14 - *Venus* greatest elongation E (47°), 16:00
17 - Last Quarter, 21:46
18 - 654 Zelinda at opposition (m=9.9)
21 - Antares 0.02° S of Moon, 08:00
26 - New Moon, 02:55; Annular solar eclipse visible only in E hemisphere
29 - Crescent Moon 6° to lower right of *Venus*, visible in evening twilight
30 - *Venus* 3° S of Moon, 07:00

PLANETS for January 2009: *Mercury:* very low in SW in evening twilight early in month, by end of month it emerges very low in SE in morning twilight; *Venus:* in SW in evening twilight, sets by 9pm; *Mars:* not easily observed; *Jupiter:* very low in SW in evening twilight early in month, lost in twilight by mid-month; *Saturn:* rises in E before 10 pm, high in S before dawn.

RASC *Observer's Handbook 2009* contains more info & is available from http://www.store.rasc.ca/