# Regulus

*The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada –Sept 2005*

## Coming up…

### RASC Regular Meetings

**Friday, September 9 7:30 pm**
Queen's University
Stirling Hall Theatre D
Members night - short lectures by members

**Friday, October 14 7:30 pm**
*Meetings are cosponsored by Queen's Physics and include astronomy lectures open to the public.*

### KAON Public Observing

Queen's Observatory
Ellis Hall
**Saturday, Sept 10 9:00 – 11:00**
**Saturday, Oct 8 9:00 – 11:00**

### AstroYak

**Friday, September 23 7:00 pm**
**Friday, October 28 7:00 pm**
at the home of Kevin Kell and Kim Hay, [xxx]

### Members Observing

Sept 4 – NIRVANA
Sept 30-Oct 2 Fall 'n Stars

*Announcing:*

## The Observational Astronomy for the Novice Program

Observational Astronomy for the Novice is a nine week course, running Tuesdays evenings from September 13th, 2005 from 7:00-9:00pm.
NOVA will teach the novice :

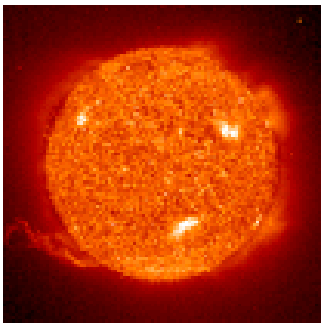
- How to get around the night sky
- The use of star maps
- Introduce the constellations
- Basic telescope principles.

See more details on page 3

To Pre-register contact us via email: Kingston (at) rasc (dot) ca or call 613-377-6029.

## Special KAON Solar Observing.

H-alpha with the new Coronado scope and white light
Saturday, Sept 10 2:00 – 4:00
On the observing deck, Ellis Hall Queen's University



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# President's Tid Bits

By Kim Hay

Well, the weather has certainly changed from the hot humid days of July and early August, and it certainly feels that Septmeber is right around the corner. The days are cool, the nights cooler and I have seen a few red leaves on the maple trees!

Welcome back from your summer holiday fun and starparties, and to the cooler months, and longer nights for observing. September is one of my favorite months really, as we see the season change, the leaves drop, the corn roasts, and celebrate the fall equinox, but it is also a time of starting new projects and being with friends again.

September will be our Members Night, so bring out your summer observing reports, or that new piece of equipment you might have purchased big or small, and share it with us.

We are also starting something new this September. We are presenting the "Observational Astronomy for the Novice" course based on the N.O.V.A. course presented by the RASC-Prince George Centre. Starting on Tuesday September 13, and running each Tuesday evening starting at 7:00 pm for 9 weeks. Course location will be in Ellis Hall Room 323 and Kevin Kell and Doug Angle are the course leaders. Please contact the Centre phone line at 613-377-6029 and leave a message for more information and Kevin or Doug will get back to you, or visit http://members.kingston.net/rasc/nova.htm for more details.

The 2005 Fall 'N'Stars star party is on September 30-October 2, at the Boy Scout Camp, located in the Vanderwater Conservation area, near Thomasburg, Ontario. Registration forms are available online at http://www.rascbelleville.ca/fallnstars/
Its always a good time with the Belleville & Kingston clubs, and hopefully we will have great observing skies, since Mars will be getting good. There will be workshops and great talks from local members, and two guest speakers, Geoff Gaherty from RASC Toronto and Rock Mallin from The Ottawa Valley Astronomy and Observers Group who is also the creator of the Mallincam.

One more thing, before I close pertaining to observing. As the summer winds down, and the fall approaches, its always a good time to get your Messier, NGC Explore the Universe, or the new I.K.Williamson Lunar Observing program up and running again. These programs were created by the RASC and more information can be found at http://www.rasc.ca/observe.htm

After going through my past log books, I noted that I started my Messier Observing program in 1991, and over the years, just kept observing the same ones over and over. But this summer I have observed all the summer Messier's with only one (M75) to go, and that will be observed once the clouds leave. Then I will have a few fall and winter ones left to get, with the thrust of the Messier objects being in the spring, and most of those in the Virgo Cluster then that will finish up my Messier Observing List.

I will submit my log book to our Observing Chair, Ken Kingdon for his approval so my application for the Messier Certificate can be sent to the National Observing chair, Chris Flemming. I am up to 48 out of the 110 Messiers and I will persevere, as this is my Observing Challenge for the 2005-2006 year. Alongside this project, I would like to complete the new "Explore the Universe" program, which is a program for the beginning observer and is done at a slower pace, but allows one to learn everything the sky.

The NGC Finest Objects Observing program will be next, along with the Lunar Program. There are lots of other observing programs out there, but working on these few first, will help me get reacquainted with the sky.

I would like to see more of our members complete one or more of these observing programs, as it is fun to star hop and learn the constellations, and find out how easy you can get carried away at the eyepiece, and before you know it, several hours have gone by. Its a calming feeling to observe through the eyepiece and look at the light from millions of years ago, to realize how lucky we are to see our universe unfold before our eyes.

That's what I have been doing this summer, so as I keep looking at the clear sky clock and hope for the skies to clear, I may be able to catch a few of the fall and winter Messiers at this time. Yes, I am afraid that the winter constellations are rising, but at least we can enjoy these winter wonders, in the not so cold time of the year.

Till later, clear skies and keep looking up!

## N.O.V.A. Astronomy course

Kevin Kell

RASC Kingston Centre ("Kingston's Astronomy Society") is running it's first ever astronomy course in decades. The course is "Observational Astronomy for the Novice" and is based on Brian Battersby and the RASC Prince George Centre's NOVA course.

Why are we running a course? Numerous requests from the public at every KAON Public Observing Session at the Ellis Hall Observatory on Queen's University Campus. Less frequent requests from our own members for a structured program in astronomy. Coincidentally, Brian Battersby and the Prince George Centre released to other centres, the NOVA (New Observers to Visual Astronomy) course. This as it turned out, was exactly what we were looking for. A course to provide people with basic astronomy knowledge and skills to enable them to become proficient amateur astronomers. On the Centre resource side, it will require only two members to instruct for two hours each night over 9 weeks.

This course will fulfill a few of our mandates in educational outreach, public outreach, member support and membership recruiting.

The course starts on Tuesday September 13th. We will meet in Ellis Hall on Queen's campus from 7:00-9:00pm and run Tuesday nights until November 8th.

The cost of the course is $125 and includes:

- the Beginners Observing Guide,
- a one year membership in the RASC-KC (which includes a one year subscription to the Journal of the RASC, a one year subscription to SKYNEWS magazine, the RASC Observer's Handbook, access to the Centre's loan equipment, including binoculars and telescopes, and more).

The instructors are Kevin Kell and Doug Angle

Outline and Dates of Classes:
Sept 13: *How to Observe.*
Sept 20: *Motion of the Sky and Seasons*
Sept 27: *Maps, Distance, Position and Brightness*
Oct 4: *Telescope Types and Using Them*
Oct 11: *The Celestial Sphere and Deep Sky*
Oct 18: *Moon and Eclipses*
Oct 25: *Solar System*
Nov 1: *Stars*
Nov 8: *Observing on the Observing Deck*

In between classes, students are encouraged to work on the Explore the Universe Certificate, with an aim to completing it by the end of the course.

If you are already a member of the RASC-KC and are interested in the course, no problem! Since part of the course fee goes towards a one year membership, we simply deduct the cost of the membership from the course fee, or $125-60=$65.

We are limiting the size of the course to 20 people. If the course is successful, and we have

every indication that it will be, we will run the course on a regular basis. Newspaper articles are being written, radio interviews have been done and some people have expressed enough interest to pre-register. If you have any questions about this course, please check the centre website for the course web page or contact either Doug Angle or Kevin Kell. To Preregister contact us via email: Kingston (at) rasc (dot) ca or call us at 613-377-6029 and leave a message with your contact information (name, phone number).

## Fall n Stars

From the web.

Fall n Stars is our annual star party hosted with the RASC Belleville centre. This year the event will be Sept 30 to Oct 2, and we will be at the Vanderwater Conservation Area once again.

*Participants from 2004 Fall n Stars*

### Tentative Schedule of Events

*Friday*

- Registration Tent opens at 4:00 p.m..
- Official Opening with Rocket Launch.
- Raising of the Flag
- Astro Trivia Challenge.
- Observing (weather permitting)
- If the sky is cloudy we'll have a movie as in past years.

*Saturday*

- Joe Shields - Solar Filter Workshop. Learn to make your own low price high quality solar filter!
- Carl MacDonald - Introduction to Astrophotography
- Larry Hum - Using a computer program to locate GRS on Jupiter
- Guest Speaker: Geoff Gaherty - Mars OR Variable Star Observing
- Guest Speakers: Rock Malin and Denis Legault Using video ccd camera to observe and combat light pollution.
- Swap Tables, Talks, Workshops, Vendor Displays
- Dinner! Tickets in advance for the catered dinner, or bring whatever you like.
- Prize Draws. You must be present Saturday evening to collect a prize.
- Observing (weather permitting) If the sky is cloudy we'll have a movie as in past years.

*Sunday*

- Complimentary orange juice and coffee.
- Pack up and close a wonderful weekend!
- Official Closing with Rocket Launch. Lowering of the Flag

Noon Everyone out! Gates locked

See www.rascbelleville.ca/fallnstars/index.php for more details.

## Congratulations

Kim Hay

Just mentioned from the RASC Kingston chat list, Stephen Gagné, son of Past President Laura Gagné graduated in Belleville from his Air Traffic Control course. Stephen received his dipolma from Receiving Officer, Chris Hatfield. **Congratulations** Stephen from all the Kingston Centre Members on your graduation, and being one of the lucky ones to meet Chris Hatfield.

## Stellafane

Doug Angle

Stellafane is an annual Amateur Telescope Making convention and star party in Springfield Vermont. On the august fifth weekend, Kingston member Jan Wisneiwski and I went to the 75th Stellafane convention.

Our first adventure happened at the U.S. border. With the increased border security, there are now radiation detectors in the inspectors booths. I was taking my large format camera which uses a 12" Aero Ektar lens, and this set off the detector. Apparently, two of the lens elements contain thorium oxide. I had heard that some lenses contained radioactive materials, but I wasn't aware that this practice continued until the 1950's when my lens was made. Thorium was used to increase the refractive index of the glass. After a brief delay, we were off again to Springfield.

There were over 1000 participants, but organizers mentioned that attendance was down from previous years. We met several new and old friends there, including several members from the Montreal Centre. Constantine Papacosmos (who made the optics for Kingston Centre's 10" Douglas telescope) attends regularly. Also in attendance were celebrities David Levy, John Dobson, and Al Nagler. Al donates some of his products as door prizes, including a complete set of Naglers.

Part of the convention is a competition of amateur telescopes. There were 32 entries in several categories of mechanical and innovation, but the most prestigious is the optics competition. And the first prize winner of the most prestigious category of the most prestigious amateur telescope making competition on earth was Kingston Centre member Jan Wisneiwski.

I had also entered the 24" Venor telescope in the competition. Optics are judged using a star test.

*Jan Wisniewski with his award winning 12" telescope. Jan completed the scope only 3 days before Stellafane. The famous pink clubhouse and Porter Turret telescope show in the background*

This is where the image is examined just inside and outside focus, using a high power eyepiece. For the Venor, the judges used a 3mm Radian, which yields 940x magnification. Reports from the judges were that there is a thin ridge and valley near the outer edge, a small localized depression, and some collimation error. We knew about the edge errors, and I could confirm this with a Ronchi grating, but I couldn't confirm the others. I suspect they were really due to thermal effects instead, and perhaps some vibration from recently installed cooling fans. Overall, the scope still meets the Rayleigh criteria as diffraction limited, but didn't place in the competition. That gives you an idea of the quality of work that amateurs are doing these days.

For me the highlight of the weekend was seeing

the variety of different and innovative designs. There were a couple of Tri-Shifleiglers, a homemade H-alpha solar scope, a scale model of William Herschel's telescope, and a replica of a 1623 quadrant. The ATM's of Springfield have several innovative telescopes dating from the 1930's, and a Shupmann Refractor, a tilted component telescope that uses a combination of lenses and mirrors.

On Saturday there were lectures on beginner telescope making, electronics, and other ATM subjects. David Levy delivered a tribute to John Dobson on the occasion of John's 90th birthday, and the keynote speaker talked about early results from the Cassini mission.

On Sunday, we toured Harkness House museum, which contains artifacts from early Stellafane operations. Then it was time to hit the road home, with only our memories (and some great deals from the swap tables!).

## August RASC meeting

Kim Hay

Thank you Mark and Linda for hosting the Markfest BBQ again this year.

The weather did not cooperate and give us clear skies, but it was fun to get together and talk about what some of us have done over the last few months, some issues we have with observatories, trying to get out and make it easier to set up and observe, and to just exchange ideas.

We went inside around 8:30 pm before the mosquitoes came out in droves and settled in our chairs the basement to look at some of the activities going on at Starlight Cascade Observatory. Ken presented some pictures from Starfest, and the earlier tour this year of Holleford Crater.

To round out the evening, we had a slide show, of Mark Kaye's wonderful astronomical astrophoto's . It may have been cloudy outside but we were in the starry skies inside, with pictures of M31 and the companion galaxies. The Milky Way, the North American nebula, many other nebula's and galaxies some lunar and solar eclipses, sun bows and rain bows and yes natures light pollution (as some call it) Aurora.

I even overheard one person say," Seeing Mark's pictures, makes me want to get my camera out again and shoot with film" , the pictures were so awesome.

Thanks again for the wonderful food, a wonderful time and being with friends.

## RASC-KC reaches out with Public Education

Kim Hay

On Thursday August 11 & 18 Susan Gagnon, Kevin Kell and myself attended the Carruther's Girl Guide camp behind Invista on Carruther's Point, to give a presentation to the Guides and to help them with their Astronomy Badge. On August 11 we had 35 girls and on the 18th, 22 girls. Our talk for both nights went for about an hour but could be cut shorter if need be. We touched on all topics, planets, stars, milky way, Polaris, lore of the Constellations, where to find certain stars and the planets in our solar system.

Several girls were picked from the audience to hold onto a planet, and they were arranged in the order that they are in the solar system. Its always a good thing to have participation from the audience to keep their interest, and to let the audience ask questions at the time that a particular topic is discussed. You could see some of the girls working through the answer in their minds so that they could understand it.

We had a power point presentation and used the program "Starry Night", a meteor display from Hank Bartlett, and other displays to help in our efforts. Though we tried really hard to convince the Cloud Gods to leave the area, at least for 30

minutes, they did not, and we could only show the girls what they could see on the Starry Night program. We gave them star charts to take away with them for use at another time. There were some really interested girls with some interesting questions, and some not so interested but they listened anyway. We certainly put the Astronomy Bug in their ear. Who knows, maybe we will see some of these girls at a future Science Fair, or as a future member.

It has been discussed that we can create power point presentations for others who may want to help out with the Brownies, Guides, and Scouts and these would be available for any member who would like to give a talk. If you are interested in this approach and have some ideas for future power point presentations, please contact me at kim@starlightcascade.ca so these can be created and placed online for member use.

Thanks to all who helped us put this presentation together, it is greatly appreciated, and helps to promote Astronomy to everyone.

## Public Observing and the Smear Nebula

By E. Kliptik

I love public observing, I really do. Those of you near me at a public function know just how much, hearing me once is one thing, all night is another!

It is very refreshing and rewarding tuning people into and onto astronomy. There are of course disinterested rednecks, oblivious teens, conspiracy theorists and creationists that do their best to trip you up or get you to say something you'll regret but these are all worth the bother for that one "ooooo" or "ahhhhh". As astronomers we tend to become blasé about the simpler sights in the sky, public observing checks that and brings us back the reality that we on a regular basis observe sights that most of the population never has or never will. We go deep for galaxies, nebulae and globulars, the public observer is wowed by the Moon, the planets and the colours of the stars. There is one object in the sky however that I think never fails to amaze all of us and that is the Sun and its sunspots. Observing sunspots is probably one of our most attended single public events. Sure we have KAON and it is monthly but our observers are people who have come out to the QUOD for that purpose and only that. At daytime public events the public has come usually to support a cause and we are there as a benefit in turn for their generosity such as the "Sky is the Limit Festival". Festivals such as this have a wide range of entertainment in order to draw the public out and raise funds. Believe me as much as we like to think astronomy is a major draw, we are only a curiosity for those passing by until they look in the eyepiece.

Over the past decade I have learned that along with observing the Sun and a well placed planet or two at daytime events there is one object that neither ourselves nor Messier ever counted on, the "Smear Nebula". I only observed the Smear Nebula at night once and never since. If you are an alert observer you too will only have this normally daytime apparition in or should I say "on" your eyepiece once in the evening. The Smear Nebula coincidentally only seems to appear at festivals that have "FACE PAINTING"! Arrggghhh!!!!! Yes the dreaded "Hey look I have a butterfly painted on my face and now I am going to try and implant my cornea on your $50 eyepiece." (really now none of you use an expensive eyepiece for public observing do you?). Yup, there they are all those cute little kids and commandos with there camouflage coming up and grinding their cheeks into your plossl! Wouldn't you just love to ….., oh never mind these are time of restraint, don't stress the children it may harm the for life!

So what do you do? Early on I decided that it is an absolute must to add an eyecup to my public observing eyepieces. There is a variety available but the one pictured here is my favorite. I picked up these bellows style cups at Starfest about five years ago for a few dollars and they have

certainly paid for themselves. Apart from protecting your eyepiece (which is comfortably recessed inside the bellows) these cups have the benefit of the "sharing effect". What one face leaves the next carries away with it! Well almost, there is some residue and that is what led me to writing this article. I always have cleaning solution, wipes and a lens pen handy for the


*Eyecups can protect your expensive (or cheap!) eyepieces from facepaint and other hazards of public observing for only a few dollars.*

optics now I am going to try and remember to carry some of those moist towelettes with me for the bellows. Sure you have to be careful not to get any lotion on the lens but it certainly has got to be easier than trying to wipe clean each time with a Q-tip. I learned right away that once you have observed the Smear Nebula you never want to observe it again!

## THE DARK SIDE

by Ken Kingdon

On Canada Day, my wife and I enjoyed the fireworks in downtown Kingston, then headed west for our home in the burbs. I have often noticed when departing the glare-infested downtown, a dramatic transition occurs from bright sky to dark sky upon reaching the Little Cataraqui River, near the Nylon Plant on Front Road. A clear night beckoned us to investigate the South Parking Lot of the Lemoine Point Conservation Area, at the extreme west end of Front Road.

Parking my car, I remarked to my wife: "Something's wrong here. There is no Moon tonight, but what's that reflection out there on the water?" Away from the windows I flew like a flash, tore open the door, threw the keys on the dash. The Moon on the breast of Mirror Lake gave the lustre of nebulae to calm waters below. Quickly I realized that the reflection out over the vastness of Lake Ontario was actually the Milky Way itself!! We both savoured an incredible sky, with the entire length of the Great Rift clearly evident, and countless visible stars everywhere. Yet, we had driven only 6 minutes from downtown!

The following evening, the sky was clear again, so I headed to Lemoine Point for a first-ever observing session. Driving into the South Parking Lot, I happened to glimpse a large animal standing off to the side in the grass. Since childhood I've seen most of the large mammal species, but this one is exceedingly rare. Easing quietly from my vehicle, I slowly approached it. Standing almost 6-foot tall at the shoulder, it gave me cause for concern. I edged closer, and then it raised its head, and uttered: "Come see M4". Yes, it was a bonafide stargazer... my first-ever sighting!

After admiring M4 with his 100mm refractor, I asked him if he would like to see it in my 12.5-inch scope... and he was momentarily speechless. His name is James Greengrass, and he is an experienced observer. Amazingly, he is also a member of RASC, but due to numerous re-postings with the Armed Forces, he remains an unattached member. By chance, he too had independently decided that stargazing should be excellent at Lemoine Point, and like me, this night was his first-ever visit.

Together we observed so many showpieces which, ordinarily, would be faint or impossible from the urban core or even places far north from the City. We also chose some objects that are good tests for sky quality: the "twin globulars" NGC 6522-28 at the spout of the Teapot were

distinct and intriguing, and also in Sagittarius, we saw the globular NGC 6642 which is right beside famous M22 - but most observers have never seen it. The view of "Bridle Veil Nebula" in Cygnus with my O-III nebula filter was exquisite, and even its faintest section called "Pickering's Triangular Whisp" was clearly seen in its entirety. James had never seen it before, and it was then that we both realized we had mutually "struck gold" finding this site. We departed in "the wee hours" as friends, yearning for another good night at Lemoines.

Lemoine Point is so good because, not only is it surrounded by vast, unlit protected lands (a virtue few cities can boast), but also southward there is no light dome to look through due to the dark abyss of Lake Ontario extending a distance of 55km. This provides a perfect view of the Milky Way's core constellations. Furthermore, looking west are open fields and the Lemoine Forest of this Conservation Authority site, followed by the wide dark waters of Collins Bay, giving 2km without any lights. Similarly, fields and forest continue at these undeveloped lands for 2km northward. Eastward for 2km is the emptiness of Norman Rogers Airport, beyond which lies another 2km at the Collins Bay Penitentiary to help buffer the City's light dome. Add excellent seeing near the lake, plus wide horizons, and throw in year-round parking access at the South Lot... the result is that Lemoine Point delivers views that surpass those of a 1/2 hour drive northward. And... it's all just 6 minutes from downtown!

I have already observed three times at Lemoine Point, and I have asked the Conservation Authority for group permission to stargaze there. RASC Kingston Centre could enjoy the benefits of truly dark skies for both private and public sessions by driving just a few minutes. RASC Members and the public desire to experience the night sky, and want to "learn the night sky". But under light-polluted urban sites, it has been difficult to experience anything more than a few bright planets. Lemoine Point beckons observers to "Come Over To The Dark Side". Jedi should bring their Green Laser Sabre Pointers... the Force is powerful... it may well transform the future space-time of RASC-KC. Yada, yada, yada...

I just hope that Lemoine Point will improve observing opportunities for members and for public events.

## The Kingston Centre of the RASC

**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.
E-mail: angle (at) personainternet (dot) com
Post: Doug Angle,
[xxx]
RR#1, Sydenham Ontario Canada
K0H 2T0
**Deadline** for the October issue is **September 16**

**Subscriptions**: Members of the Kingston Centre receive Regulus as a benefit of membership. Advertisements are free to members of the Centre. Commercial advertising is $20/quarter, $40/half page, $100/ full page and should be in electronic format.

Contributions are more than welcome. submitted material may be edited for brevity or clarity.

## Kingston Cosmic & Events Calendar

by Kim Hay

For more information, refer to the RASC 2005 Calendar, or the RASC 2005 Observers Handbook, available from Kevin Kell, or from National Office. Also see http://www.rasc.ca/kingston

| Date | Events |
|---|---|
| **Sept 2-5 Friday - Monday** | **Members Observing - Labour Day Weekend trip to NIRVANA see http://members.kingston.net/securemenu.htm for more information and directions** |
| **Sept 3 Saturday** | **New Moon 14:45** |
| **Sept 6 Tuesday** | **Jupiter 2.7° N of Crescent Moon 9 pm** |
| **Sept 9 Friday** | **Regular Meeting** Stirling Hall Theatre D **7:30** p.m. *"Members Night "* |
| **Sept 10 Saturday** | **KAON Observing Session**- Ellis Hall Queen's Observatory **Afternoon- Solar Observing 2:00-4:00 pm 9:00-11:00 p.m.** for more information visit http://members.kingston.net/rasc/pubobs.htm |
| **Sept 11 Sunday** | **First Quarter Moon 7:37** |
| **Sept 13 Tuesday** | **Observational Astronomy for Novice Course 7:00 pm Ellis Hall Room 323** |
| **Sept 17 Saturday** | **Full Moon 22:01 Saturn 1.2°S of the Beehive Cluster 6 am.** |
| **Sept 20 Tuesday** | **Observational Astronomy for Novice Course 7:00 pm Ellis Hall Room 323** |
| **Sept 22 Thursday** |  **Fall Equinox 6:23 pm** |
| **Sept 23 Friday** | **Astro Yak** at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions ****Special Night** BBQ to celebrate the Equinox. Time 6:00 pm to 10:00 pm.- Bring a salad or desert to share. Burgers, Dogs, and Drinks provided.** |
| **Sept 27 Tuesday** | **Observational Astronomy for Novice Course 7:00 pm Ellis Hall Room 323** |
| **Sept 30- Oct 2 Friday- Sunday** |  *Fall'N' Stars 2005* **Star Party hosted by RASC Kingston & Belleville Centre's see www.rascbelleville.ca/fallnstars for more details- get your registration forms at the Kingston Centre August BBQ and September Meeting, or visit the Fall N Stars url.** |

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|---|---|
| **Oct 3 Monday** | **New Moon 6:28** |
| **Oct 4 Tuesday** | **Observational Astronomy for Novice Course 7:00 pm Ellis Hall Room 323** |
| **Oct 8 Saturday** | **KAON Observing Session**- Ellis Hall Queen's Observatory **9:00-11:00 p.m.** for more information visit http://members.kingston.net/rasc/pubobs.htm |
| **Oct 8 Saturday** | **Draconid Meteor Peak 1 pm www.imo.net for more info** |
| **Oct 10 Monday** | **Happy Thanksgiving**  |
| **Oct 10 Monday** | **First Quarter Moon 15:01** |
| **Oct 11 Tuesday** | **Observational Astronomy for Novice Course 7:00 pm Ellis Hall Room 323** |
| **Oct 14 Friday** | **Regular Meeting** Stirling Hall Theatre D **7:30** p.m. Guest Speaker" **Dr. Doug Welch**" from McMaster University |
| *Oct 17* **Monday** | **Full Moon 8:14 Partial Lunar Eclipse** visible in all of North America except East |
| *Oct 18* **Tuesday** | **Observational Astronomy for Novice Course 7:00 pm Ellis Hall Room 323** |
| **Oct 19 Wednesday** | **Moon 1.0º S of the Pleiades 9:00 pm** |
| **Oct 21 Friday** | **Orionid Meteor Peak 5:00 am www.imo.net for more info** |
| **Oct 24 Monday** | **Last Quarter Moon 21:17** |
| **Oct 25 Tuesday** | **Observational Astronomy for Novice Course 7:00 pm Ellis Hall Room 323** |
| **Oct 29 Saturday** |  **Mars closest approach** |
| **Oct 29 Saturday** | National Council Meeting **10:00 am-5:00 pm- hosted by the Hamilton Centre** |
| **Oct 30 Sunday** | **Daylight Saving Time Ends 2:00 pm** |
| **Oct 31 Monday** |  **Halloween & Zodiacal Light visible- East in morning next 2 weeks** |

WebSite Passwords for Member-only areas:
RASC-Kingston: xxx
RASC-National: xxx