Regulus

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

Coming up…

RASC Regular Meeting

Queen's University
Stirling Hall Theatre D

Friday June 10, 2005 at 7:30 pm
Members presentations

Friday July 8, 2005 at 7:30 pm
Richard Schmude – "Photoelectric photometry of Jupiter"

KAON Public Observing

Queen's Observatory
Ellis Hall
Saturday June 11 9:00-11:00
Saturday July 9 9:00 – 11:00

Relay for Life

Saturday June 3rd 8:00 pm
Observing at RMC

The Sky is the Limit Festival

Saturday July 9
Daytime Observing at City Park

AstroYak

Friday June 24 7:00 pm
at the home of Kevin Kell and Kim Hay, 76 Colebrooke Rd.

Members Observing

June 18
At the home of Ken Kingdon **.**

Saturday July 16
Tour of Holleford Crater with Leo Enright

David Levy shows off the picture the RASC Kingston Centre presented to him at the conclusion of his talk at Chernoff Hall. About 75 people showed up to hear David share his enthusiasm for astronomy.

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President's Tid Bits

By Kim Hay

As the summer approaches, times will be busy and we may not see each other to much, but we can always keep in touch with our newsletter. I think the Kingston Centre summer started early. May was very busy with the David Levy, our Honorary President speaking to us on May 2, Little Cat on May 7, our meeting on May 8, and the KAON session on May 9.

The May 2 talk by David Levy was held in Chernoff Hall, with around 75 people present, including members from the Belleville, London and Toronto Centres.. David showed us some of his earlier life in starting in Astronomy and how he has carried through his life with observing solar eclipses, and how he continues today with his work on project Skywatcher and the Telescopes for Telethon which is an annual Star Night where 4-50 telescopes are set up at the University of Arizona for an afternoon and evening of observing. At the same time money is raised for the Muscular Dystrophy Association so they can send children with neuromuscular disease to camp. As David say's "This way, these children can enjoy the stars like the rest of us". You can visit David & Wendee's site at http://www.jarnac.org/

His talk appealed to all present, every age group, every level of astronomer. The Kingston Centre presented David a picture of him in his younger days with A.V. Douglas the founder of the Kingston Centre in 1961.

We ended this night at the Tim Horton's for conversation and David then proceeded to Leo Enright's to do what? Observe of course!

Our little Cataraqui Event was well attended and we did manage to get out and observe this time. After the event we were treated with a very intense aurora, which then left as fast as it came.

Our KAON session was rained out, but we did give two individuals a great tour of the sky using Starry Night and how to read their star maps for future observing. Its always nice to have the one on one interaction to help and show people what is out there in our great universe.

As of this writing we are packing as it is just days before we leave on our excursion to the General Assembly being held in the "Sunny Okanagan Valley" of Kelowna, BC.

Of course the weather channel is not promising a dry nor sunny trip, but I am hoping that the clouds will part and we will get warm sunny weather. It's always nice to experience different parts of Canada and take in the scenery. It will be a busy time with meetings, but also a fun time seeing old friends and making new ones. If you ever get a chance to go, do go, you will not regret it. Next year in

2006 it is in Ottawa, very close for travelling by car.

Web Pages

Kevin Kell

Look for new pages on the RASC-KC website:

http://members.kingston.net/rasc/outreach.htm
Contains details of every public education and outreach event for the last few years that we can find information on. If anyone has more info or corrections or events that we've missed, please send them in.

http://members.kingston.net/rasc/donate.htm
is a recently updated page, in anticipation of an organized donation campaign later this summer, gives the exec and members an idea of the historic levels of donations and honours the names of the individuals who have contributed $$ over and above the call, but not linking the amounts, only the annual totals as reported.

http://members.kingston.net/rasc/lx200gps.htm
has been updated with the new accessories that have arrived for the scope. Recall that this scope was funded through a grant from the Ontario Trillium foundation. These latest acquisition have used up the last of this fund.

Speaking of equipment,
http://130.15.144.99/rasc/secure/signout.htm
is a real time list of the Equipment Loan Program stuff currently signed out, with links back to the public loan page. This gives members an idea of what is out and not available and gives the exec an idea of how much the equipment is used.

Tim Seitz dropped off a cdrom of images from the 2005 May 02 David Levy talk. They are online at
http://130.15.144.99/rasc/pics/20050502/

Sirius Dating in Ancient Egypt

Sothis and the Luni-Stellar Calendar

Laura Gagne

Ancient people used three basic types of calendars, which were not necessarily related to each other. The most important type was the agricultural calendar based on the solar year. The lunar calendar divided the year into anywhere from eleven to thirteen months. The civil calendar, which was used for measuring the events in daily life, was often some sort of combination of the solar and lunar calendars. In Egypt, the civil calendar made no attempt to fit with the cycles of the sun and moon, but was simply a 365-day year. This created many problems for festivals that celebrated events tied to the agricultural year, since the civil dates on which festivals were celebrated wandered through the solar year. Originally, the day designated as "New Year's Day" coincided with the heliacal rising of Sirius, the brightest star in the sky. It was called "Sothis" by the Ptolemies, the Greek rulers of Egypt from the fourth to the first centuries BC. Shortly after the day when

Sothis was seen to rise just before the sun, in mid July during the second millennium BC, the Nile River flooded its banks, bringing the rich fertile soil that caused Herodotus to call Egypt the "Gift of the Nile". This was seen as a time of renewal of the earth, and when the flood waters receded, the time for planting had arrived.

The drifting of the day marking the beginning of the year through the civil calendar would have made things very difficult for farmers who depended on a known date for planting. This was not the case in Egypt, however, since planting was done as soon as the flood waters receded. The only real need for a calendar in ancient Egypt was to mark the festival days. Festivals were celebrated when the priests proclaimed them. The temple calendar was probably lunar, but this lunar calendar was not used for secular purposes. Evidence for the use of a lunar calendar for time reckoning, but a different calendar for the naming of days can be found on a papyrus from the 19th cent. BC, which lists dates for service of various groups of priests who took turns serving in the temple. These dates are either 29 or 30 days apart, therefore each group served for a lunar month, but the actual recording of the dates uses the month names of the civil calendar rather than those of the lunar calendar. For example, some dates recorded are as follows:

•From II shemu 26 to III smw 25
•From IV shemu25 to Year 31, I 3ht 19
(The Egyptian calendar has 3 seasons, each with 4 months. The four months of the season called shemu are numbered I, II, III, and IV. The number following the name of the season is the day of that month.)

Egyptian months are measured from the disappearance of the last crescent of the moon. The reason for this is based on myths. The moon is equated with the god Khonsu, who, according to a hymn, is conceived in the darkness of invisibility on first day of the month, is born as new crescent on second day, grows old on 15th day, then wanes until he is reborn as a new crescent. The solar year is not divisible by an even number of lunar months. Evidence that the Egyptians used a 25-year lunar cycle after which the lunar and solar calendars would realign is found on a document known as "Papyrus Carlsberg 9". This cycle comprises 309 lunar months (synodic), making up 25 solar years. In this cycle, 16 years have12 lunar months, and 9 have 13 months. Of these, 164 months have 30 days, and 145 have 29 days. The priests would have decided the number of months and days by observation. This would bring the agricultural and the lunar calendars into line with each other, but the civil calendar was something else entirely.

Since the civil calendar is 365 days long, while the length of time between the heliacal rising of Sirius for two successive years is c. 365.25 days, the seasons drift. After 730 years, winter and summer would have changed places. In another 730 years, or after a total of 1460 years, the seasons would be correct again, and New Year's day of the solar calendar (the

heliacal rising of Sothis/Sirius) would fall on the civil New Year as it should. This is known as the Sothic cycle, and is very helpful for determining dates in Ancient Egypt. If some scribe wrote about a political event (naming the Pharaoh, for example) and also made an observation about the calendar, then an absolute date for that event could be known. As it happens, the Roman writer Censorinus wrote that rising of Sirius occurred on Civil New Year (I akhet 1) on the 20th of July AD 139 (this date was adjusted to the Gregorian calendar (our calendar), and is not what Censorinus wrote). That means that the first such cycle began in 1321 BC (Sothic cycle = 1460 yrs). Unfortunately, he wrote 100 yrs after the event he writes about, and he is actually reporting what someone told him. Still, his numbers are not considered by Egyptologists to be too far wrong.

It seems that it might be possible to figure out actual Gregorian calendar dates for any Egyptian event that also mentions what day of the civil year the heliacal rising of Sirius fell on. This information, as well as lunar observations by the priests, ought to give us some idea where in the Sothic cycle this event occurred. As most observers know, however, it is necessary to also know the latitude of the observer to help to get an exact date. Egypt covers about seven degrees of latitude, so observations made of the heliacal rising of Sothis/Sirius can vary up to seven days from the north to the south (one degree of latitude giving one day of difference in observation). Added to this problem is the fact that the Egyptian King list (list of all the pharaohs) records the length of time that each king reigned, but does not record how many of those years were co-regencies between father (or mother in a couple of cases) and son. This list was also written in the first of second century BC, but records thousands of years of history.

It is tempting to think that archaeologists can use astronomical observations to arrive at exact dates for events in ancient history, but there are many problems. Although it is entertaining to attempt to use astronomy for dating, it is important to realize that the ancient people were not making observations for the same purposes we do. Worse than the recording of heliacal rising of Sirius to mark the New Year, ancient people often invented things like comets, eclipses and other celestial events to add some importance to things like battles, the births of kings, and even to embellish stories with omens or moral lessons of the wrath of the gods. While it is not safe to believe everything you read, when the archaeological record backs up the astronomical observations, the work of ancient astronomers may add a new dimension to our knowledge of the lives of ancient people.

Starfest 2005

Kim Hay

We have been asked by our friends at the NYAA to pass along the message of the Starfest Starparty 2005, in case you wish to attend.

It is always a good time to hear of new developments in the Amateur and Professional Astronomy world, meet new friends, take in a swap shop and observe at night under dark skies.

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The North York Astronomical Association invites you to attend its twenty-fourth annual Starfest. Starfest is Canada's largest annual observing convention and star party. It attracts over one thousand astronomy enthusiasts from Ontario, and neighbouring provinces and states.

It has been ranked among the top seven star parties in North America by Sky & Telescope magazine. Starfest offers a wide variety of observing-oriented activities that address the needs and interests of experienced observers and astrophotographers, as well as those new to the hobby. Activities include observing sessions, formal and informal presentations, workshops, commercial exhibits, and a children's program.

You are invited to bring your telescope and astronomical images, and share your observing experiences with others.

"Seeing Through the Eyes of Giants". Today's modern astronomy is based on the collective work of giants, giants who's eyes could see beyond the mist, whose minds were open to new ways of interpreting what they saw; and whose conviction enabled them to convince others, and ultimately change the face of astronomy.

Starfest 2005 features over eighteen presentations and workshops, given by leading professional and amateur astronomers. This year's stellar line up includes: Marcia Bartusiak, Randall Brooks, Doug Cunningham, Doug Welch, Glenn Norman, and many more. As well this year Scott Roberts, from Meade, will give several workshops on various Meade products.

Full details to help you plan your agenda are available on our website at www.nyaa-starfest.com.

Ken Kingdon
Observing Chairman

Friday April 29 was the first day of our RASC-KC Members "floating go/no-go" stargazing period for May. The weather was "iffy", but there were strong incentives to get out anyway... a clear sky on a weekend of the Lunar dark-phase is uncommon; we are nearing the last mosquito-free nights; and the weather looked a heck of a lot better than the cloudy forecasts for the upcoming week. As the old saying goes: "Clear skies... use 'em, or lose 'em."

Not willing to risk a longer drive to Arden, we simply went to Camden Lake... and it paid off. Dave Pianosi, Susan Gagnon, new member David Roeder, plus myself enjoyed a good evening together. Our site seemed to be surrounded by

distant clouds, but overhead the sky remained miraculously CLOUDLESS. Transparency varied from GOOD-FAIR for most of our 2 hour session, to POOR when we quit at 11pm... er, then it became PRISTINE after we had packed our gear away for the drive home... dang!! Of course this was due to inbound rainy weather that arrived just 9 hours later. Saturn was nice. Jupiter's Great Red Spot was observed at 250x magnification. I had not seen the GRS so well in YEARS... ever since it mysteriously changed its name to the Great Faint Spot. Good news... it's now on the mend. Saw one brilliant mag -8 Iridium flare and later another at mag -2, being chased by a spacecraft. The low Aurorae (from big sunspot 756?) along the Northern horizon were dimmer than the light domes of three cloud-covered municipalities to the south. Combined with many crying Loons on the calm waters offshore, we experienced a nice ambiance.

We saw the usual assortment of nice Messiers, but some were dimmed by intermittent high-altitude haze. The Virgo galaxy cluster had unfortunately been left to last when the haze really worsened, but this galaxy cluster would have been beautiful after 11pm when a 2-hr pristine period began.

My own personal mission was to find a mag 10 comet that I have never seen. It has a 5.5-year period. It's currently in Virgo, near the star Vindemiatrix. Its name will soon be well known - Comet 9P/Temple 1. This is an important comet to observe for two reasons:

1. this week is its closest approach to Earth, and
2. Comet Temple is the target of the Deep Impact mission.

Comet Temple is the cover story of the current June '05 issue of Sky and Telescope magazine. On Monday July 4th at 2am EDT, the Deep Impactor (DI) will collide with Temple. Video from DI's own delivery vehicle will become a major public news event as Temple makes a hit-and-run impact. An explosive bright outburst, possibly naked-eye, is expected to occur at a "safe" distance of 135 million kms from Earth. This is likely to be the biggest space-news story in a long time, and I plan to be out observing it from a dark site. To see a simulation of the collision orbits visit: http://neo.jpl.nasa.gov/orbits/deepimpact.html

> From a plot of its daily ephemeris, I did a careful star-hop; but Temple proved invisible at 50x using my cheap wide-field 30mm eyepiece, so I changed to a high-quality eyepiece of 120x power. This darkened the background, and its multi-coated optics greatly reduced light flaring. Temple then became obvious, with better details than many other comets which I have hunted down. As a bonus, very close to Temple could be seen the beautiful galaxy pair NGC 4762-75. These very close galaxies carry a number of pedigrees: #84 on the RASC Finest NGC List; rated amongst the best in the Herschel 400 List; nick-named "The Spindle and Wool"; and the spindle 4762 is stated to be "The Flattest Galaxy

Known". Broadband surfers can visit this pair at: http://www.astrophotos.net/pages/GALAXIES/NGC%204762.htm

If you get the chance, practice scoping-out Comet Temple now, so you won't miss it on its "Big Bang Day" in July. If you can't see it, perhaps your sky is too light-polluted or too hazy... but at least you now know that Temple is visible from Camden Lake, just a 20-minute drive north of Kingston's Hwy 401. Oh, BTW, you can get a daily ephemeris for plotting Temple at: http://cfa-www.harvard.edu/iau/Ephemerides/Comets/0009P.html

I may have neglected to recall sightings of other attendees, I hope they will bring them to our attention. Finally, if next weekend is clear, we will still be going to the magnificent skies at Arden.

Kingston Centre Logo addendum
Kevin Kell

I found some more info on the old and new logo design in the 1997 GA handbook. Refer to article about the new logo in the May issue of Regulus.

The logo image for the 1997 General Assembly of the RASC was designed by Peggy Torney, Kingston Centre President and 1997 GA Committee Chair-person. It features two distinctive objects near and dear to the hearts of Kingston Centre members:
* the Murney Tower (part of Kingston's 19th- century fortification system, it is considered one of the finest examples of Martello Tower design in North America), located in a lakeside park which has been the site of many of our observing sessions

* the constellation Corona Borealis, whose name means "Crown of the North"

Advice for the Computer Users.

Kevin Kell
Kevin(at)starlightcascade(dot)ca

Most RASC members have computers. Most have access to the Internet. And all of those have had viral or spyware problems. This article won't stop those problems completely, but will help reduce your risk level.

I've been a systems administrator at Queen's University for 15 years now and currently manage a network of 86 workstations and 11 servers for the academic and research side of the Pathology Department of Queen's and the Clinical Laboratory side of Kingston General Hospital. As such I have the whole range of end users from Doctors to 4th year University students, from Ph.D's to high school students doing work experience. These folks know how to screw up computers!

This is some of the advice I have for you to reduce the risks of viral and spyware infection and identity theft. If you have a new computer, hot off the shelves, without any add on software, and plug it into the Internet, you have a life expectancy of

approximately 4 minutes before it gets infected... Without you having to do a thing (like browse or email). That's right, without you doing anything. This is because of flaws in the Microsoft Operating System that allow evil-doers from lower Siberia to attack your machine and infect it with software.

What can you do to reduce these risks?

#1) Install a hardware firewall (like a network router) or a software firewall (like Zone Labs **Zonealarm**) on your system. Zonealarm is available for free

#2) Install an antivirus program and keep it up to date.

#3) Install spyware scanners like **Adaware** and **Spybot Search and Destroy**, scan your computer and keep checking for updates.

#4) Use the Windows Update feature of your operating system to install patches, fixes and updates.

#5) stop using the Internet Explorer web browser and try a safer alternative like Mozilla **Firefox v1.0.2**, Mozilla or Netscape.

#6) Feeling really brave? Turf the microsoft windows operating system completely and try out Linux Fedora Core 3, a free alternative to MS Windows, MS Office and more.

The software in **boldface** are available on the Internet at http://starlightcascade.ca/software/
Happy and Safe Computing to you!

The Kingston Centre of the RASC

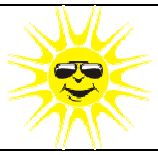
Newsletter Submission Info:
I can take most common formats, although I prefer plain text. Pictures should be sent as image files in attachments separate from the articles.
E-mail: angle(at)personainternet(dot)com
Post: Doug Angle,
xxxxxxxx
RR#1, Sydenham Ontario Canada
K0H 2T0
Deadline for the July issue is **June 17**

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
June 3 Friday	**Relay for Life at RMC 8:00-11:00 pm**
June 6 Monday	**New Moon 17:55**
June 10 Friday	**Regular Meeting** Stirling Hall Theatre D **7:30** p.m. Short Presentations by Members http://www.rasc.ca/kingston/
June 11 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
June 14 Tuesday	**First Quarter Moon 21:22**
June 18	**KenFest BBQ at the home of Ken & Simone Kingdon, 991 Chancery Street.**
June 21 Tuesday	 **Summer Solstice 2:46 am**
June 22 Wednesday	**Full Moon 0:14**
June 24 Friday	**Astro Yak** at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions
June 28 Tuesday	**Last Quarter Moon 14:23**
July 1 Friday	**Canada Day** 
July 3 Sunday	**Venus 0.4° of Beehive Cluster (M44) Mercury near by –10:00 pm**
July 4 Monday	Deep Impact spaceship will reach its target - Comet Tempel 1
July 6 Wednesday	**New Moon**
July 8	**Crescent Moon near Venus and**

Thursday	**Mercury Mercury at greatest elongation E (26°)**
Date & Time	**Events**
July 8	**Regular Meeting** Stirling Hall Theatre D **7:30** p.m. **Richard Schmude Photoelectric photometry of Jupiter "** http://ww.rasc.ca/kingston/
July 9 Saturday	**Sky is the Limit Festival setup 8:00 am runs until 4:00 pm**
July 9 **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
July 14 Thursday	**First Quarter Moon**
July 16 Saturday Daytime Observing Event	**Daytime tour to Holleford Meteor Crater - one of Canada's finest IMPACT CRATERS more information at http://www.rasc.ca/kingston**
July 21 Thursday	**Full Moon-Largest Full Moon of 2005**
July 22 Friday	**Astro Yak** at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions
July27 Wednesday	*Last Quarter Moon*
July 27 Wednesday	**S. δ-Aquarid Meteor Peak at 9:00 pm**
July 30 Saturday	**Mount Kobau Star Party, Osoyoos, BC www.mksp.ca (through August 7)**

WebSite Passwords for Member-only areas: