Regulus

Newsletter of the RASC Kingston Centre Issue 96-05
September/October 1996

Renewals

**** Message from the Centre Treasurer ****

As the nights get longer, and the summer constellations fade more quickly, this generally means one thing, its MEMBERSHIP TIME again, and you thought I was going to say WINTER.

The Kingston Centre 1996-97 Membership year runs from Oct 1,1996 to Sept. 30,1997. The dues have not increased in price and remain at $45.00 for Regular, $11.25 for Associate, $25.00 for Student (Age 21 and below), $36.00 US for all US/Foreign Members and $900.00 for Life Members.

This year however the Memberships will be handled a bit differently to last year. National Office has made a deal with the University of Toronto Press (UTP) on behalf of all Centre's, that all memberships will be sent to them directly.

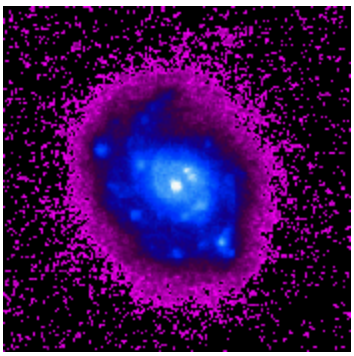
This gives members the opportunity to renew their memberships via a 1-800 phone call and can be paid by cheque, money order, or Visa/MC. When you renew your memberships, please tell the UTP representative as to which Centre you are renewing your Membership with. Your Observers Handbook will be directly mailed to you from UTP when they become available in November 1996. Also any publications will be mailed to you directly from UTP as they currently are.

In January 1997, Sky News will be bundled with the newly combined JRASC (Journal) and be sent to all Regular/Lifetime/Student members.

There will be more information available shortly, however at the time of printing this it was not available.

In short, for now, please fill out the form attached (back page) and send it to the Kingston Centre, and I will look after your membership.

Thank You for your cooperation and understanding in this transitional period. Kim Hay, Treasurer, Kingston Centre-RASC



Astronomy Picture of the Day can be found at
http://antwrp.gsfc.nasa.gov/apod/astropix.html

September 10, 1996 **M77: Spiral with a Strange Glow**

Explanation: Why is M77 surrounded by an ultraviolet glow? M77, also called NGC 1068, appears at first sight to be a relatively normal barred spiral galaxy. But when photographed in the ultraviolet (UV), as shown above in false color, the galaxy sports an ultraviolet halo - shown as violet in the photograph. The blue spiral structure closer to the picture's center indicates normal ultraviolet emission from bright young stars that have recently formed there. Astronomers now hypothesize that the outer glow arises from UV light emitted from the galaxy's active center and reflected to us from clouds of gas and dust. These same gas and dust clouds obscure the active center of this Seyfert galaxy - where an ultramassive black hole is thought to live.

1997 General Assembly in Kingston, Ontario Canada
Friday June 27th to Monday June 30th, 1997

The Centre

The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada

Newsletter Submission Info:
Deadline is the Friday before regular meetings in odd numbered months.
email: ***kell@cliff.path.queensu.ca***
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Post: Box 2033 Kingston Ontario K7L5J8 Canada
ascii or most major word processors (WP6.1 for windows preferred) via email or 3.5" DOS floppy disk

Our Web page can be found at:
http://crp.kingston.on.ca/rasc/rasc.htm

Officers and Executive Council

President:	Peggy Torney
Vice President:	David Stokes
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To Send email to all members of the Kingston Executive, address it to: ***rascexec@cliff.path.queensu.ca***

Committee Chairs

Astronomy Day:	Cathy Hall	613-
Education:	Kim Hay	613-
Publicity:	Christine Kulyk	613-
Observing:	Peggy Torney	613-
Light Pollution:	John Baker	
GA:	Peggy Torney	613-

Centre Address: RASC - Kingston Centre, PO Box 1793, Kingston, Ontario K7L 5J6 Canada

Upcoming Meetings

September 13th: Regular Meeting, Members night. Bring your slides, stories, etc for short 10 minutes presentations.
October 11th: **Annual General Meeting & '97 Elections** Speaker: Laura Gagne
November 8th: Regular Meeting
December 13th: Annual Awards Dinner & Meeting

Regular Meetings of the Kingston Centre are held on the 2nd Friday of each month (unless noted otherwise) at 20:00 local time in **Room B-201, Mackintosh-Corry Hall** at Queen's University (parking available off Union Street at Frontenac).

Special Events:

September 5-8, 1996 Huronia Star Party, southwestern Ontario's newest star party is held each year in Huronia, Ontario. HSP 96 is run by the South Simcoe Amateur Astronomers (SSAA).

Princess Court Cinema
September 25 & 26: Picture of Light Documentary on the Northern Lights
September 24: Mystery Science Theatre 3000: The Movie

Regulus is published 6 times per year. Views and opinions expressed herein do not necessarily reflect the official position of the Royal Astronomical Society of Canada or its officers and members.
Subscriptions: Members of the Kingston Centre receive Regulus as a benefit of membership. Non-members may subscribe for $10 per year.
Advertisements are free to members of the Centre. Commercial advertising is $25 per half page, $50 for full page and must be camera ready copy.
Contributions are more than welcome. Submitted material may be edited for brevity or clarity.

From The Editor

Big changes are afoot to how membership is handled in the Society. As I write this I still have no clear idea of the mechanism but am hoping that by the time this issue goes to press, we will have some information (possibly even a form!) To send out to you. What *should* happen was listed in the minutia of the last issues minutes of Motions of the National Council meetings held in Edmonton. The University of Toronto Press should be mailing to you *Very Soon Now* a customized registration form for the Kingston Centre. You will have the opportunity to fill it in, check, write or say somewhere that you wish to be affiliated with the Kingston Centre and mail it back to the UofTPress. Within a month the Centre will get your membership details from them along with our share of the fees. I can then send you another newsletter! It is rumoured that the membership year will no longer be fixed... this has good and bad points, but I suspect we will not find out immediately as the vast majority of existing members will renew at the same time as usual. Plus the fact that in this first year of transition, many things may have to be tweaked/fixed/scrapped for the 2nd and subsequent years.

The Internet continues to grow more and more relevant to our hobby, both with the ability to communicate electronically person to person and the ability to disseminate breaking news very quickly (when did *you* get a photo of the Martian meteorite and Science article?). I encourage all of you to acquire at the very least some kind of email account

National News

(Ed note: these were published last issue in draft format)

Wed, 4 Sep 1996
JEDICKE@zeus.fanshawec.on.ca
Minutes of RASC meetings

Greetings to one and all.
The final draft of the minutes of the meeting of National Council on June 28, 1996, the Annual Meeting of June 30, 1996, and the meeting of National Council on June 30, 1996, have now been posted to the RASC web site. The URL is
http://mnbsun.stmarys.ca/rasc/nat/minutes/index.html
or click your way there from the home page.

Please remember that posting of minutes on WWW is for the purpose of fostering and encouraging communication within the Society. For official purposes, consult the final, approved minutes which will be kept on file at the national office after the subsequent meeting of National Council or after next year's Annual Meeting.

If you notice any errors or omissions, please inform me. I accept full responsibility for any errors or omissions, and I apologize for same.
Clear skies!
Peter Jedicke, National Recorder

Tue, 03 Sep 1996 "David J. Lane" <dlane@hercules.stmarys.ca>
Looking for Images

Hi: I'm the author of a shareware planetarium & scope control program, Earth Centered Universe (see http://fox.nstn.ca/~ecu/ecu.html), and I am in the process of putting together a CD-ROM version which will include among other things, the Guide Star Catalog.

I'd like to augment it with some amateur images of deep sky objects and
as-a-result am soliciting your images for possible inclusion on the CD.

These images would have to be taken by you (ie. you own them) and be not-copyright free-to-use. Full credit will be give in a "credits" file plus a text file can be included along with each image.

If you have some images you'd like to contribute, you can upload them to the ftp site: hercules.stmarys.ca in directory /pub/incoming/images and send me
a note by e-mail (please do not reply to the list, but send direct to *dlane@hercules.stmarys.ca*) or just let me know where I can grab them (I sit on a 4 megabit link here...).
Regards, Dave Lane

General Assembly News

Each year the Society holds a General Assembly, a gathering of members from across Canada and abroad. In 1997 the GA will be hosted by the Kingston Centre.

Chair: Peggy Torney
Secretary: Christine Kulyk
Treasurer: Kim Hay
Publicity: Bill Broderick
Registration: Kim Hay
Accommodation: Kevin Kell
Papers: Leo Enright
Hospitality: Ruth Hicks
Transportation: To Be Filled

Firm Dates:
1997 Friday June 27th
1997 Saturday June 28th
1997 Sunday June 29th
1997 Monday June 30th

The schedule should be available by the time you get this newsletter.

First and foremost, we would like to encourage *all* Centre Members to attend this once a year get together.

Second, we are looking for volunteers! As little as a couple of hours of your time would be appreciated beyond belief! In general we will be looking for people to help pickup and dropoff incoming guests from the Kingston air, bus and train stations (see John Baker). The other major requests will be to spend a couple of hours at the registration desk (see Kim Hay) and the display area desk (see Kevin Kell)

General Submissions

"Kingston Centre encourages its members to write in with news of astronomy in their area and/or updates on their recent observations..."

OBSERVING AT THE NEBRASKA STAR PARTY
submitted by Ray Berg

I am one of the "remote" States-side members of Kingston Centre from Crown Point Indiana. Having just returned from an eight day camp-out at the Nebraska Star Party (NSP), I thought I might share a few observations with you. The NSP was held during August 10-17, 1996 in the remote, unpopulated sandhills of northern Nebraska, which is mainly cattle country with few, widely scattered small towns. Therefore, light pollution is basically nonexistant, enabling one to see a bright Milky Way from horizon to horizon and naked stars to magnitude 7.5 (some claimed to be able to detect stars down to magnitude 8). My objectives for this grand expedition were threefold:

1. Dim variable stars that were not visible at home
2. Some really tough deep sky objects
3. Perseid meteors which were to be at maximum

I was not disappointed! At home in Crown Point, I can usually see down to 12.9 magnitude in my 8" Schmidt-Cassegrain. At NSP, aided with AAVSO star charts, I could easily breeze through to 14.7 magnitude every night with the same 8" scope and on one very good occasion, 15th magnitude stars were visible. I was ecstatic and logged 90 estimates of faint variable stars, including 45 below 14th magnitude.

To view difficult deep sky objects, I took on the NSP DEEP SKY CHALLENGE, designed by planners of the NSP to test observing skills and to frustrate an observer even in very dark sky conditions! Part of the CHALLENGE was to observe and describe ten items selected from RASC Deep-Sky Challenge Objects by Alan Dyer and Alister Ling. Included were such "gems" as NGC 1275 (Perseus A exploding galaxy which was just a very dim, small oval fuzzie in my 8" scope), B 72 (Barnard's dark S-Nebula which while discernable, was difficult to trace out in an area rich in dark nebulas) and IC 5146 (Cocoon Nebula, extremely faint and diffuse). I did fail at one of the objects; the California Nebula (NGC 1499) completely eluded me even when I switched to a 3" rich star field refractor with a 4 degree field at 14X coupled with OIII and Dark Sky nebula filters. Maybe if I had an H-Beta filter.....

Finally, the Perseids. These whizzed by all night long, distracting the observer of other wondrous telescopic sights. They were bright, fast and many with enduring, sparkling trains. Finally, one evening, a couple nights after shower maximum, I just sat back in a lounge chair and watched the spectacle for two hours. Even though the shower was past the peak, my count was still a respectable 40 Perseids per hour in addition to 15 per hour of meteors from other minor showers and sporadics.

All things considered, the magnificent skies plus the camaraderie of other observers from all over the country made for a really great experience that I'll try for again next year.

Starry-Eyed

Submitted by Laura Gagne:

My husband thinks I'm crazy in a cure sort of way. My parents gave up on me long ago. My neighbours are convinced that I am out of my mind. Maybe I am a little obsessed, but I can hardly imagine how anyone could live their life without being struck with " night fever". How could someone look up on a clear, dark night and not be immediately possessed by the magnificence of the universe? Here we are, little specks of stardust with eyes, spinning around on our little blue planet in an unimaginably huge cosmos. We can see for thousands of light years, especially if we use telescopes or binoculars. Some of the stars we see may not even be there anymore, but only their light remains like an echo through time, drifting through interstellar space blissfully unaware that the star in which it was born no longer exists. There may even be some more sentient stardust out there somewhere, whizzing through space on its home world and wondering about the probability of our existence. Closer to home we are treated to some of the most spectacular light shows right here in our own atmosphere. Meteors streak the sky. Perhaps the odd meteorite may even land on Earth like a visitor from space. They are little left-overs from hen the solar system was forming. Some of the more exotic ones are actually pieces of neighboring planets, hammered off by some cataclysmic event that would have drastically altered our biosphere had it happened to us. On some nights we are treated to beautiful aurora

which hang like shimmering curtains of colour gently waving in the breeze. Sometimes they are so crisp and brilliant you can almost hear them chiming as they dance overhead. The night sky is so full of wonders and the show is different every night.

I find it odd that there aren't more sky-watchers out there. I just can't imagine how anyone could go outside and not look up and immediately fall over backwards gasping in open-mouthed awe at the splendour of the night sky. Maybe my neighbours who lay on their lawnchairs in the sun all day find it hard to understand why I lay on my lawnchair all night with my binoculars in my hands. Perhaps my husband finds it strange that I'll go out for hours with my telescope in the winter when it is bone-cracking cold outside just to stare at the Orion Nebula until my feet freeze. My parents may never get used to me talking about the light pollution crisis and the dew point and haze being unfavourable. OK, so I have photon addiction. I regularly attend meetings of the Local Astronomers Anonymous club where I can find people like me. While everyone else is watching late night reruns on TV, my friend and I will be out there every clear night we can, scanning the heavens for glittering optical delicacies. We don't mind if it's a little chilly, as long as the seeing is good. The bugs don't bother us if the sky is clear and dark. Nothing stops us. We are addicted to the night sky. Maybe we are a little crazy, but I like it that way.

I just wanted to drop you a line to express my thanks for your newsletter, REGULUS. I always enjoy reading it. You do a great job putting it together! This spring, I shared your newsletter with a lot of friends and co-workers when the comet--'forgot the name--was visible. We watched the comet about every night.

'Not much to report from Southern California. We have hazy (smoggy) skies many summer nights. The fainter stars are covered up by the smog. The Milky Way is invisible year around, unless you drive 40 miles up to the mountains. However, the constellation Scorpios can be seen in its entirety in the Southern sky at our 34 N. latitude. It's a beautiful sight! Kind regards. Clark Miller, RASC member attached to the Kingston Centre *w6tpq@amsat.org*

Observations from StarFest:
We saw Cathy Hall! And Past-president-for-life Walter MacDonald! Will wonders never cease! In any event Starfest was Great. If you can, go. Simple as that. Roughly 800 people attended, skies were clear, Perseids were disappointing, door prizes were great and plentiful.

Observations from Charleston Lake:
Several members of the Centre journeyed to Charleston Lake Provincial Park on the evening of Monday August 19th to aid Terry Dickinson with telescopes for public viewing. We had a great! Turnout. Mark Kaye, Kevin Kell, Tom Dean, Kim Hay, Ruth & Terry Hicks, Vic Smida, Laura Gagne, and more.
Skies were relatively good (better than last year!) But by midnight the haze and extended overhead. Terry gave a slide presentation in the Amphitheatre and had a packed house. Then the packed house swarmed over to the field where we had about 12 scopes set up and for the next two hours lines and lines of people had the opportunity to see Jupiter, Saturn, Comet Hale-Bopp, Messiers galore and more.
Note to next years crew: bring 110vac fuses, red material to cover your car lights (indoor, reverse, headlights), hot thermos of liquid and dew zappers.

Submitted by Kevin Kell

Software News

Deep Space Ver 5.51
http://www.simtel.net/pub/simtelnet/msdos/astronmy/dspac550.zip
ftp://ftp.simtel.net/pub/simtelnet/msdos/astronmy/dspac550.zip 1430057 bytes

Deep Space Ver 5.51 is a small upgrade from Ver 5.5.

The shareware software mentioned above is also located at the following Kingston BBS's
✶Observatory East (Mark Kaye)
613-353-6495 FidoNet 1:249/109
2400-28800 bps 8N1V.34
✶ StarStream (Kevin Kell)
613-546-6403 FidoNet 1:249/112
14400-28800 bps 8N1V.34
✶ Moonlight Cascade (Kim Hay)
613-353-7369 FidoNet 1:249/133
2400-28800 bps 8N1V.FC

Telescope status

The telescope has seen a lot of use in the last few months... out to Starfest for a long weekend and Charleston Lake for an evening. Now with Kevin Kell, it is available for loan. The Centre Binoculars are out with Peggy Torney. *"Veni, vicidobsonus, vidi..."* *(I came, I got a large aperture Dobsonian, I saw...)*

Internet Tidbits

N96-39
NEW HUBBLE IMAGES OF DOOMED STAR ETA CARINAE AVAILABLE; INTERNET USERS CAN VIEW IMAGE IN 3-D

A huge, billowing pair of gas and dust clouds are captured in stunning new Hubble Space Telescope (HST)

images of one of the most massive stars in our Galaxy, the supermassive Eta Carinae. Eta Carinae, located more than 8,000 light years away, was the site of a giant outburst about 150 years ago, when it became one of the brightest stars in the southern sky. A combination of image processing techniques reveal astonishing detail of the exploding star, which is radiating about five million times more power than our Sun.

Those with Internet access can view a unique 3-D (three-dimensional) image of the exploding star, which was assembled from two HST images of Eta Carinae taken 17 months apart (April 1994 and September 1995). Hubble's high resolution of the motion of the gas and dust between the observations allowed astronomers to combine and encode the images to reveal the true three-dimensional geometry of the system. To see the 3-D structure, the image must be viewed through color 3-D glasses with the left eye looking through a red filtered lens, and right eye looking through a blue filtered lens. Please note 3D glasses will not be available through NASA or the Space Telescope Science Institute.

All the image files (including the 3-D image) in GIF and JPEG format, as well as captions may be accessed on Internet via anonymous ftp from *ftp.stsci.edu in /pubinfo.*

GIF and JPEG images, captions and information are available via World Wide Web at:

http://www.stsci.edu/pubinfo/PR/96/23.html and via links in: *http://www.stsci.edu/pubinfo/latest.html* or *http://www.stsci.edu/pubinfo/pictures.html*

June 26, 1996
RELEASE: 96-123
FINDINGS FROM HUBBLE DEEP FIELD HOME IN ON DISTANT GALAXIES

Astronomers analyzing the Hubble Deep Field -- the faintest view of the universe taken with NASA's Hubble Space Telescope -- have identified what may prove to be the most distant objects observed to date. Scattered among the nearly 2,000 galaxies in the Hubble images, which were taken last December, researchers at the State University of New York at Stony Brook (SUNY) and collaborators found several dozen galaxies they believe exhibit characteristics which make them appear to be more distant than any seen previously. Six of the galaxies appear to be more distant than the farthest quasars, the current distance record holders. Their results are being published in the June 27 edition of the British science journal Nature.

In one of the first detailed studies of the statistical properties of these distant galaxies, Kenneth Lanzetta and Amos Yahil, of SUNY at Stony Brook, and Alberto Fernandez-Soto, of the University of Cantabria, Spain, have attempted to determine the distance of each of the galaxies based on their colors.

"Since light travels at a finite speed, the galaxies are seen as they were in the distant past, allowing us to study the birth and growth of galaxies versus time," says Lanzetta. "Our results have implications bearing not only on the formation and evolution of galaxies but also on the ultimate fate of the universe," adds Yahil.

July 9, 1996
RELEASE: 96-130
ENGINE BUILT TO CATCH A COMET BEGINS ENDURANCE TEST

A new NASA spacecraft engine that begins flight at less than a snail's pace but builds up enough speed to catch a comet will soon be used to push exploring spacecraft to the far reaches of the solar system.

A prototype of a xenon ion engine, which fires electrically-charged atoms from its thruster, began a nearly year-long endurance test April 30 at NASA's Jet Propulsion Laboratory, Pasadena, CA.

Once validated by the test, a similar engine will power the first New Millennium mission, called Deep Space-1, to an asteroid and a comet in 1998. The comet will be West-Kohoutek-Ikemura and the asteroid will be McAuliffe, named after the school teacher Christa McAuliffe who died in the Challenger accident.

July 10, 1996
RELEASE: 96-133
GALILEO SPACECRAFT MAKES NEW DISCOVERIES AT GANYMEDE

NASA's Galileo spacecraft has returned stunning close-ups of Jupiter's moon Ganymede revealing that the face of the huge satellite has been extensively bombed by comets and asteroids and dramatically wrinkled and torn by the same forces that make mountains and move continents on Earth.

"These images have exceeded our wildest expectations," said Dr. Michael Belton of the National Optical Astronomy Observatories, who leads Galileo's imaging team.

At the same time, scientists studying data from space physics instruments on the spacecraft have made the major discovery that planet-size Ganymede possesses its own magnetosphere -- a bubble-shaped region of charged particles that surrounds many of the planets but has never been found to exist around a moon. The finding indicates that

Ganymede, which is three-quarters the size of Mars, very likely creates its own magnetic field. Possible sources of a magnetic field include a molten iron core or even a thin layer of conducting salty water underneath its icy crust.

The crisp new images and magnetospheric findings were revealed in data returned by Galileo in the days since its first flyby of Ganymede on June 27, when the spacecraft came within just 519 miles of the big moon. Ganymede is the largest moon in the solar system. It is made of about equal proportions of rock and water ice. It is one of Jupiter's four large satellites that will be repeatedly visited by the Galileo
spacecraft over the course of its two-year mission in orbit around the giant planet. Galileo entered orbit around Jupiter on December 7 last year. The spacecraft was launched from Earth on October 18, 1989.

1996 Aug 06
RELEASE: 96-159
STATEMENT FROM DANIEL S. GOLDIN, NASA ADMINISTRATOR

"NASA has made a startling discovery that points to the possibility that a primitive form of microscopic life may have existed on Mars more than three billion years ago. The research is based on a sophisticated examination of an ancient Martian meteorite that landed on Earth some 13,000 years ago.

The evidence is exciting, even compelling, but not conclusive. It is a discovery that demands further scientific investigation. NASA is ready to assist the process of rigorous scientific investigation and lively scientific debate that will follow this discovery.

I want everyone to understand that we are not talking about 'little green men.' These are extremely small, single-cell structures that somewhat resemble bacteria on Earth. There is no evidence or suggestion that any higher life form ever existed on Mars.

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The NASA scientists and researchers who made this discovery will be available at a news conference tomorrow to discuss their findings. They will outline the step-by-step "detective story" that explains how the meteorite arrived here from Mars, and how they set about looking for evidence of long-ago life in this ancient rock. They will also release some fascinating images documenting their research.

-end-

S94-032549 (Low-res JPG; Hi-res JPG; TIF) - This 4.5 billion-year-old rock, labeled meteorite ALH84001, is believed to have once been a part of Mars and to contain fossil evidence that primitive life may have existed on Mars more than 3.6 billion years ago. The rock is a portion of a meteorite that was dislodged from Mars by a huge impact about 16 million years ago and that fell to Earth in Antarctica 13,000 years ago. The meteorite was found in Allan Hills ice field, Antarctica, by an annual expedition of the National Science Foundation's Antarctic Meteorite Program in 1984. It is preserved for study at the Johnson Space Center's Meteorite Processing Laboratory in Houston.

C/1995 O1 (Hale-Bopp)

Elements MPC 27287

Date	TT	R. A. (2000)	Decl.	m1
1996 09 04.0		17 37	- 6.4	5.3
1996 09 09.0		17 34	- 6.1	5.3
1996 09 14.0		17 32	- 5.8	5.2
1996 09 19.0		17 31	- 5.6	5.1
1996 09 24.0		17 30	- 5.3	5.1
1996 09 29.0		17 30	- 5.1	5.0
1996 10 04.0		17 30	- 4.9	4.9
1996 10 09.0		17 31	- 4.6	4.9
1996 10 14.0		17 32	- 4.4	4.8
1996 10 19.0		17 33	- 4.1	4.7
1996 10 24.0		17 36	- 3.8	4.6
1996 10 29.0		17 38	- 3.5	4.5
1996 11 03.0		17 41	- 3.2	4.4
1996 11 08.0		17 44	- 2.8	4.3
1996 11 13.0		17 48	- 2.4	4.2
1996 11 18.0		17 52	- 2.0	4.0
1996 11 23.0		17 56	- 1.5	3.9
1996 11 28.0		18 01	- 1.0	3.7
1996 12 03.0		18 06	- 0.4	3.6
1996 12 08.0		18 12	+ 0.3	3.
1996 12 13.0		18 17	+ 1.1	3
1996 12 18.0		18 23	+ 1.9	3.1*
1996 12 23.0		18 30	+ 2.8	2.9*
1996 12 28.0		18 37	+ 3.9	2.7*
1997 01 02.0		18 44	+ 5.0	2.4*
1997 01 07.0		18 52	+ 6.3	2.2*
1997 01 12.0		19 00	+ 7.8	2.0
1997 01 17.0		19 09	+ 9.4	1.7


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1997 01 22.0    19 19   +11.2     1.4
1997 01 27.0    19 29   +13.2     1.2
1997 02 01.0    19 41   +15.5     0.9
1997 02 06.0    19 53   +18.0     0.6
1997 02 11.0    20 08   +20.8     0.3
1997 02 16.0    20 24   +24.0    -0.1
1997 02 21.0    20 44   +27.4    -0.4
1997 02 26.0    21 06   +31.0    -0.7
1997 03 03.0    21 33   +34.8    -1.0
1997 03 08.0    22 06   +38.5    -1.2
1997 03 13.0    22 45   +41.8    -1.5
1997 03 18.0    23 30   +44.4    -1.6
1997 03 23.0    00 19   +45.7    -1.7
1997 03 28.0    01 09   +45.6    -1.8
1997 04 02.0    01 56   +44.2    -1.7
1997 04 07.0    02 38   +41.7    -1.6
1997 04 12.0    03 13   +38.6    -1.5
1997 04 17.0    03 42   +35.3    -1.3
1997 04 22.0    04 07   +31.9    -1.0
1997 04 27.0    04 27   +28.6    -0.7
1997 05 02.0    04 44    +25.4    -0.5
```

Space Calendar

The Space Calendar covers space-related activities and anniversaries for the coming year. This Calendar is compiled and maintained by Ron Baalke. Please send any updates or corrections to ***baalke@kelvin.jpl.nasa.gov***

You can find this on the web at:
http://newproducts.jpl.nasa.gov/calendar

This Month in Space History -
September 1996

* Sep 14 - Asteroid 1996 EN Near-Earth Flyby (0.1466 AU)
* Sep 16 - Asteroid 1989 RS1 Near-Earth Flyby (0.1937 AU)
* Sep 21 - Comet IRAS Closest Approach to Earth (0.9715 AU)
* Sep 22 -[Aug 20] Autumnal Equinox (17:59 UT)
* Sep 23 -[Aug 15] Asteroid 6090 1989 DJ Occults PPM 142651 (9.8 Magnitude Star)
* Sep 23 - 150th Anniversary (1846), J. Galle's Discovery of Neptune
* Sep 26 - Saturn at Opposition
* Sep 26-27 - Lunar Eclipse
* Sep 27 - Jupiter Occults SAO 180954

October 1996

* Oct 01 - Asteroid 546 Herodias Occults PPM 182173 (7.6 Magnitude Star)
* Oct 03 - Mercury At Its Greatest Western Elongation (18 Degrees)
* Oct 03 - 35th Anniversary (1962), Fall of Zagami Meteorite in Nigeria (Mars Meteorite)
* Oct 04 - Asteroid 3 Juno at Opposition
* Oct 09 - Draconids Meteor Shower
* Oct 10 - 150th Anniversary (1846), William Lassell's Discovery of Neptune's moon Triton
* Oct 12 - Partial Solar Eclipse
* Oct 15 - Comet Machholz 1 Perihelion
* Oct 21 - Orionids Meteor Shower
* Oct 22 - Asteroid 1989 UQ Near-Earth Flyby (0.1505 AU)
* Oct 23 - Asteroid 4947 Ninkasi Near-Earth Flby (0.2131 AU)
* Oct 25 - Asteroid 4197 1982 TA Near-Earth Flyby (0.0846 AU)
* Oct 27 - Daylight Savings - Set Clock Back One Hour (USA)
* Oct 27 - Asteroid 3908 1980 PA Near-Earth Flyby (0.0613 AU)
* Oct 29 - Asteroid 243 Ida Occults GCS 18961636
* Oct 29 - Asteroid 1991 VE Near-Earth Flyby (0.0853 AU)
* Oct 29 - Asteroid 1780 Kippes Occults PPM 70306 (7.1 Magnitude Star)
* Oct 31 - Comet IRAS Perihelion

November 1996

* Nov 02 - Comet Helin-Roman-Crockett Perihelion (3.489 AU)
* Nov 02 - Venus at Perihelion
* Nov 04 - Taurids Meteor Shower
* Nov 05 - Asteroid 52 Europa Occults 12.0 Magnitude Star
* Nov 05 - Comet Tritton Perihelion
* Nov 06 - Mars Global Surveyor Launch (Mars Orbiter)
* Nov 09 - Comet Mrkos Perihelion (1.413 AU)
* Nov 12 - Jupiter Occults SAO 187632 (6.9 Magnitude Star)
* Nov 14 - Andromedids Meteor Shower

Buy, Sell & Trade

RASC Promotional Items For Sale:
Items in stock: (Prices and shipping costs)
☆**The 1997 Vancouver Calendars have arrived. We have 25 to sell this year. They are gorgeous. Mostly colour, outstanding and lots of information. $10.00 each (+ $2.00 shipping).**
✯ RASC lapel pins (blue, white & silver)$4.00 each (+$1.00 shipping)
✯RASC stickers (blue with white overlay)$1.25 each (add $0.50 shipping per order)
✯Golf shirts (white,sm,med) lt blue (med) $20.00 each ($4.00 shipping)
✯Toques (Black with Yellow writing)$15.00 each ($2.00 shipping)
✯RASC Mugs (Thermal mugs-Blue/ white) $4.00 each (1.50 shipping)
✯RASC Keychains(Clear acrylic-Blue/ white) $2.00 each ($0.50 shipping)
All taxes included in prices. If at anytime you have questions or future ideas for RASC Promotions please contact me with the address below.

Mail: Mrs. Kim Hay, RR#2 , Perth Road, Ontario, K0H 2L0, Canada
phone: 613-353-1189 email:
Kim.Hay@moonlight.crp.kingston.on.ca

Check out the Kingston Centre WWW Home Page for pictures of the items mentioned above!
Please make Canadian cheques and Money Orders payable to : Royal Astronomical Society of Canada (RASC)

Free to a Good Home: approx 20 years of Astronomy magazines (almost a complete set) from 1975-1995. Contact Arlow Anderson at 613-335-2389. Located at RR #3 Mountain Grove (west of Sharbot Lake)

Light Pollution Questionnaire
The Light Pollution Committee (National) wants to know how you feel about the issue of light pollution. Please take a few moments to answer the following questions and give us your comments. You may also copy the questionnaire for members of your Centre. Return to: **RASC Light Pollution Committee, c/o Bill Broderick, Chair, RR#1 Shannonville, Ontario K0K 3A0 Canada.**

(Please circle the appropriate answer)
1) Do you consider light pollution to be a serious threat to astronomy? (yes/no/not sure)
2) Is light pollution a problem for you? (Yes/no/not sure)
3) Have you found the articles on light pollution in recent issues of the Bulletin interesting, informative, helpful to your understanding of the issues involved?
(Yes/no/not sure)
4) Do you agree that the RASC should be involved, through it's Light Pollution Committee, in seeking and promoting solutions to the problem of light pollution?

(Yes/no/not sure)
5) Do you support the idea of a Canadian Campaign for Dark Skies involving amateur and professional astronomers and their organizations and other interested individuals and organizations?
(Yes/no/not sure)
6) Would you consider donating money and/or time to such a campaign if given the opportunity to do so? (If yes please provide name, address, phone number).
Money (yes/no/not sure)
Time (yes/no/not sure)
Optional Comments on any or all of the questions

Benefits to you the Member
When you renew your subscription to one of the following magazines (Sky & Telescope or Astronomy) through the Kingston Centre, you will receive benefits such as lower prices to the magazine subscription, and a discount on any articles that the magazines catalogues have for sale.
Contact Kim Hay (Treasurer) for more information.
email: *kimhay@adan.kingston.net* or call 613-353-1189 (home)

Executive Positions for the upcoming Centre Elections:

From the Centre Bylaws:
Article V - **Election of Officers**
The conditions of nomination shall be:
1. that the person nominated shall be a member in good standing of the Centre,
2. that the assent of the nominee shall have been obtained,
3. that at least two who are members in good standing of the Centre shall make the nomination.

Article VI - **Duties of Officers**
1. The President shall preside at all meetings at which he or she is present; if the President is absent the Vice-President shall preside and in the absence of these Officers, the meeting shall appoint a chairman.
2. The Vice-President shall, in the absence of the President, preside at the meetings, and in other ways assist when possible with the management of the Centre.
3. The Secretary shall keep accurate minutes of all regular Centre meetings and the meetings of the Executive Council and other activities of the Centre, conduct the correspondence of the Centre, and work with the Newsletter Editor to see that members are informed about meetings. The Secretary shall submit to the Annual Meeting a report on membership, meetings, and other Centre activities for the preceding year. After the report has been approved by the Executive Council, it will be sent by the Secretary to the Secretary of the R.A.S.C. before the 15th day of January in each year.
4a. The Treasurer shall keep accurate records of all subscription fees and other monies received, pay bills as sanctioned by the Executive Council, and submit to the Annual Meeting a report on membership, meetings, and other Centre activities for the preceding year including a statement of revenues and expenses and a statement of assets and liabilities. These statements shall, after being approved by the Annual Meeting of the Centre, be forwarded by the Treasurer of the Centre to the Treasurer of the R.A.S.C. before the 15th day of January in each year.
4b. On the 15th day of January , April, July and October of each year, the Treasurer of the Centre shall submit to the Treasurer of the R.A.S.C. the required 60% of all membership fees received during the quarter-year ended on the last day of the preceding month along with a report listing the names of the members who paid their fees during the said quarter-year, the amounts paid by each of them and other pertinent information.
5. The Newsletter Editor shall be responsible for the production at regular intervals of the Centre's Newsletter.
6. The Librarian shall be responsible for maintaining the Centre's library of books, periodicals, newsletters and other material.

Additional Info from various Officers:
Duties of the Office of Treasurer:
-Maintain accurate financial information
-Do banking for Centre and pay bills to appropriate persons.
-Maintain Membership List and Information (confidential)
-Answer any questions that Members or National Office may have.
-Keep track of Centre Inventory
-Keep track of Sales of Observers Handbook, Beginners Observers Guide
-Send remittance to National on Sale of books, Memberships.
-Financial reports to the Membership every month, and to National once a year for publication in Journal.

Duties of the Newsletter Editor:
Design, layout, collect articles and produce the newsletter every other month. Maintain an accurate membership mailing list acquired from the Treasurer and spend a few hours sticking 200 stamps onto envelopes after folding and inserting the newsletters.

Duties of Education Chairperson to Education Committee:
-Help educate the public on Astronomy
-Help out with Displays in the Public forum
-Set up educational programs for the young (Youth members)
-Help to organize people to help at schools for group outings.

Renewal time is upon on.

The Kingston Centre RASC Membership Year Oct 1 to Sept 30

Please fill in this form and send along with the required remittance to the address below, or come and see Kim Hay (Treasurer) for your Membership signup.

The Membership dues are at ( ) $45.00 (Regular)
(Check one of the following) ( ) $11.25 (Associate) (Family members/Spouse to Regular Member)

( ) $25.00 (Student/Youth) (21 and under)
( ) $36.00 (US Funds for US/Foreign)
( ) $900.00 (Lifetime)

Name:_____

Address:_____

City:_____ Postal Code:_____ Country: _____

Phone Number: _____

Email Address: _____

Optional:

Other Hobbies:_____

Occupation:_____

Associate Members Name:_____

Address:

Kim Hay phone: 1-613-xxx-xxxx
[xxx]
Ontario
Canada