



# REGULUS

MAY-JUNE 1993

NEWSLETTER OF THE KINGSTON CENTRE  
OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

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**ADVERTISING:** Classified advertisements re items to buy, sell, or trade, are free to members of the Centre. Commercial advertising is \$25 per half page, \$50 for full page. Commercial advertisers must provide clean, camera-ready copy.

**CONTRIBUTIONS WELCOME:** Articles, notes on observations, humour, poetry, artwork, anything on astronomy or related topics, are invited. Submitted material may be edited for brevity or clarity. Please send all submissions to the Editor as follows:

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## MEETINGS AND EVENTS HORIZON

**Regular Meetings** of the Kingston Centre, RASC, are held on the **second Friday** of each month (unless noted otherwise) at **8 p.m.**, in **Room B-201, Mackintosh-Corry Hall, Queen's University**. **Non-members are welcome.** Executive meetings are at 7:30 p.m.

- Sat., May 1** INTERNATIONAL ASTRONOMY DAY. Public Star Party (weather permitting) MacDonald Park, time 8:00 p.m.
- Fri., May 7** REGULAR MEETING. Speaker, Terence Dickinson, "The Southern Sky From Las Campanas, Chile." PLUS book autographing and sale of Terry's titles.
- Sat., May 8** ASTRONOMY DAY MALL DISPLAY in the Frontenac Mall, Bath Road. All day.
- Mon., June 7** SPECIAL PUBLIC EVENT. Speaker, Jack Newton, from the Victoria Centre., speaking on "Colour CCD Imaging: The New Frontier in Astronomical Photography." LOCATION: Room 205, Walter Light Hall (New Technology Building), Queen's. 8 p.m.
- Fri., June 11** REGULAR MEETING. Speaker, Denise Sabatini, "The Interrupted Journey."
- JULY 1 TO 5** RASC GENERAL ASSEMBLY, HALIFAX.
- Fri., July 9** REGULAR MEETING. Speaker, Dr. Dave Hanes, Dept. of Astronomy, Queen's "Observing Globular Star Clusters With The Hubble Space Telescope."

## IN THIS ISSUE...

	<u>Page</u>
PRESIDENT'S MESSAGE . . . . .	2
NOTE TO MEMBERS RE PROXY FORM . . . . .	2
STOPPING DOWN TO STEP UP . . . . .	3
NEWS AND NOTES . . . . .	4
DARK CAMPUS PROGRAMS--IDA Info Sheet 54	5
PROXY FORM -- Attachment for Kingston Centre members only.	

**PRESIDENT'S MESSAGE**

**By Christine Kulyk**

The following humorous lyric can be sung to the tune of the Scarecrow's song from The Wizard of Oz:

**IF I ONLY HAD A 'SCOPE**

**I could scan the skies for hours  
At all the highest powers--  
I'd have no cause to mope.  
I'd find pulsars and comets,  
A new star with my name on it,  
If I only had a 'scope.**

**Picture me--a galaxy  
Swims gently into view.  
I'd take pictures no one ever took before,  
Change my f/stop--  
And take some more!**

**I'd draw scowls from all the neighbours  
Suspicious of my labours  
Out underneath the stars.  
And the end of my story  
Could be an observatory  
Here In Kingston--behind bars. \***

--CHRISTINE KULYK

\* But luckily, such a tragic fate need never come to pass: I hope one day to follow the sage example of many of our wiser members and move out of the city to a quieter, more rural locale, with those great dark skies (of course, I'll still need to get myself a 'scope). Meanwhile, cheers and best wishes to the members of our new Observing Site Committee in their efforts to seek out new dark sites and new "lack-of-civilizations" so we can boldly go where no 'scope has gone before!

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**NOTE TO KINGSTON CENTRE MEMBERS RE PROXY FORM**

We draw your attention to the Proxy Form unclosed with this issue of REGULUS. This form gives those members who will not be able to attend the RASC General Assembly in Halifax on July 1 - 5 of this year the opportunity to vote on the proposed new membership fee schedule. \* \* Please refer back to the "N.C. Rep's Report" by WALTER MACDONALD in the March-April issue of REGULUS for an explanation of the proposed fee schedule. \* \* Please bring your completed Proxy Form with you to the June 11 meeting (we plan to set time aside at that meeting to answer any questions you may have concerning the proposed fees or the Proxies), or you may mail your completed Proxy Form to: Walter MacDonald, 000 XXXXXXXXXXXX, Oshawa ON XXX XXX.

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## STOPPING DOWN TO STEP UP

By Steven Manders

All of us would like to own a 16-inch Dobsonian telescope for deep-sky work along with a 6-inch apochromatic refractor for planetary work. Most of us amateur astronomers own something more humble being that we are such a humble lot of people. The problem is how to squeeze the most out of what we own. One way to make a less-than-perfect telescope a little bit better for resolution is called "stopping down". It is used with cameras and telescopes, a well-recognized trick, but I will show you how to take it one step farther.

By placing a cover in front of the telescope with a large hole cut in the cover, you use less of the mirror or aperture and this usually does the trick. The reason is simply that the precision of the mirror is usually less perfect around the edges than at the centre so by blocking off the edges we get a better-quality image but not as bright. Even the billion dollar Hubble Space Telescope has to do this so don't be embarrassed by admitting that your optics are less-than-perfect.

This is usually most beneficial for large-aperture lower-cost mirrors such as on Dobsonian 'scopes. Performance can be improved even more by the following simple trick and I use it on my own 'scope for any planetary work. Cut half-a-dozen or so discs of construction-paper or bristol-board to nicely fit in the large end of the 'scope. Attach small tabs to each one to assist in their removal. Cut different size concentric circles, small, medium and large size holes on each of three of them. On the other three, cut one with a large oval hole centred, and the others with large holes off to one side. By using these different masks, we can experiment on a bright star for the one that produces the most perfect pinpoint image. What you are looking for is a sharp image with no tall, crows' feet or fuzziness. Use the tab on the ones with the non-centred holes and slowly rotate the mask and watch for any change to the image. If it changes, note the best and worst positions. Once the best mask and angle of rotation has been selected, discard the rest or pass them on. You will now be using only the most perfect part of your mirror wherever it is, with a minimum loss of light

By using this technique, I have been able to double the resolution on an f/4 'scope which is designed for wide-angle deep-sky work and ideal for beginners but poor for planetary work. Without the mask, only a few broad bands are visible on Jupiter: with the mask I can see the eddy-currents in the cloud belts when seeing-conditions permit. Let me know if it gives you the same improvement

Another useful mask is the eyelid. When you are outside and fully dark-adapted you will often need, something in the house--a new lens, sky chart, coffee, etc. Before you go near the light, choose the eye that you are most likely to use on the 'scope, close it, go in the house and do your errands, keep the one eye closed. When you get outside again, blink your eyes alternately to see the substantial difference in their light sensitivity. You are still fully dark-adapted in the one eye. An eye-patch may also be used.

All we need now are clear skies with mild nights. Got any good ideas on how to achieve that?

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*Astronomy compels the soul to look upwards  
and leads us from this world to another.*

--PLATO

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# NEWS AND NOTES

## NEW MEMBER

We are pleased to welcome new member TOM REDDICK of Belleville, who joined the Kingston Centre in April. We're very happy to have you with us, Tom.

## NO MEETING ROOM CHANGE!

There is no meeting room change at the present time, we're happy to report. Queen's has informed us that we can keep Room B-201 at least until the end of the year (should we keep our fingers crossed on that?). Anyway, that's good news which we're sure will be welcome by all.

## SETTING SAIL FOR THE GA

Once again Kingston Centre will be well-represented at our Society's General Assembly, fondly called the "GA". We know of at least six members of Kingston Centre who are going and possibly there are others that we don't know about yet. What with the results of the membership survey to be discussed and possible changes in the Society's Journal to be considered, not to mention dues increases and other business, plus all the "fun things" that have been planned, this GA promises to be an exciting and eventful one indeed. If you didn't receive a registration package and you would like one, be sure to see our Secretary-Treasurer KIM HAY.

## OUR LATEST BROCHURE

Our new pamphlet "DO YOU NEED A SPEAKER...?" is now available. This pamphlet outlines what Kingston Centre is able to provide in the way of speakers and presenters for almost any occasion or function. It lists a variety of subjects that can be presented, including: ASTRONOMY AS A HOBBY; WHY IS THE SKY DARK AT NIGHT?; LIFE IN THE UNIVERSE; LIGHT POLLUTION--A DIFFERENT KIND OF ENVIRONMENTAL ISSUE; THE SKY IS FALLING--OR HOW THE DINOSAURS DIED; etc.

As well as speakers, we can also provide telescopes (and telescope operators) for private observing sessions, or even combine a talk with an observing session.

For schools and youth groups such as Guides, Scouts, etc., there is no cost involved. The pamphlet points out that we are happy to share our knowledge and excitement about the stars and astronomy with young people. For presentations to adult clubs and groups, however, we suggest an amount between \$50 and \$100 depending on the circumstances and the number of people attending the function. All proceeds, of course, accrue to the Kingston Centre, RASC, which is a non-profit organization, and are in the way of a donation. We do state, however, if the function is outside of the Kingston area, that an additional amount for travel, payable to the person or persons involved, would be appreciated.

If you know of a group or club that you think would be interested, please give them one of our new pamphlets. They can be picked up at any meeting, or give one of the officers a call.

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*O, telescope, instrument of much knowledge,  
more precious than any sceptre, is not he who  
holds thee in his hand made king and lord of  
the works of God? JOHANN KEPLER*

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## INTERNATIONAL DARK-SKY ASSOCIATION

3545 N. Stewart, Tucson AZ 85716 USA

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### Dark Campus Programs Reduce Vandalism and Save

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Conventional wisdom suggests that light reduces crime. That's why outdoor lights are often called "security lights." School districts across the U.S. are turning conventional wisdom on its head by turning off lights on school grounds.

The results have been impressive. Annual energy savings can add up to hundreds of dollars per school. Significant decreases in vandalism have been documented since the "Dark Campus policies have gone into effect. Here are three examples.

The San Antonio (Texas) School District was one of the first to try this idea back in 1973. The annual cost of repairing damage caused by vandalism dropped from \$160,000 to \$41,000 in just a few years.

"I remember as a kid, we never hung around in the dark, says Sam Wolf, director of security for the district. "We hung around a street light. We wanted to see who was with us. The thrill of vandalism is partly in seeing a window shatter or watching paint cover a wall. Darkness takes away the thrill.

The 4-J School District in Eugene, Oregon has eight schools participating in their Dark Campus program. Since it began as an experiment in 1989, vandalism has virtually disappeared in certain problem schools.

At one school annual energy savings totaled \$300. That was just icing on the cake compared to time saved on repairing and cleaning up damage caused by vandalism. The district also researched their insurance requirement and found that turning off all the lights, including exit

signs, was okay when nobody was in a facility.

In California, the Livermore Joint Unified School District reports energy savings of about ten percent along with a slight decrease in vandalism. Cupertino Union School District reported that vandalism dropped 29 percent, while energy savings totaled \$8,190 during the 1981-82 school district. For both districts, the campus blackout was part of a larger anti-vandalism strategy.

#### Why Dark Campus Works

There's no scientific evidence that night time blackouts **cause** a reduction in vandalism. However, it seems to work well, especially in upper and middle class neighborhoods. When everyone gets used to dark school grounds, lights of any kind will arouse suspicion.

To be effective, turn off all the lights to make the campus as dark as possible. This may be difficult to do in some buildings, and rewiring may be required.

To make Dark Campus work you have to do more than just turn out the lights. Communication is the key component of the program. You need to be sure that students, staff, neighbors and police know what you're doing. Expect skepticism. Bring proof that the idea works. The 4-J School District developed the following checklist that will help you cover all the bases.

## Checklist for Success

### Define the Policy

- Set hours for the blackout, 11:00 PM to 6:00 AM is often used.
- Instruct students and staff that the building is off limits during dark hours.

### Implement The Program

- Inform local law enforcement officials. Get their views and try to address their concerns.
- Inform school district officials.
- Communicate with neighbors and parents. Informal meeting, flyers and school newsletters are a few methods for getting the word out. Emphasize that any lights seen during dark hours should be reported to the police.
- Post prominent signs on all sides of the campus listing the dark hours and a police telephone number to call.
- Block access to all foot and vehicle traffic.
- Install lights controlled by occupancy sensors and audible alarms in areas with valuable equipment, such as computer labs.

### Track The Program

- Keep notes on starting dates, communications, etc.
- Record results, including energy savings and occurrences of vandalism.
- Promote your success.

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# THE ROYAL ASTRONOMICAL OF CANADA

## \* PROXY \*

### NOTICE AND INSTRUCTIONS TO MEMBERS SIGNING PROXIES:

1. If you do not (a) date the proxy, and (b) sign the proxy, then your proxy will be invalid and will be disregarded. The proxy member must be a voting member of the society and in good standing.
2. Complete the "Special Instructions" section ONLY if you do not wish your proxyholder to vote as he/she sees fit.
3. If your "Special Instructions" (if any) are vague, ambiguous or contradictory (as determined by the presiding officer at the Meeting), then your proxy will not be invalid, but your proxy will be treated as though you had not completed that portion of the "Special Instructions" section that is vague, ambiguous or contradictory, and your proxyholder will have the authority to vote your proxy as he/she sees fit in respect of such matters.

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THE UNDERSIGNED, being a voting member in good standing of The Royal Astronomical Society of Canada (the "Society"), hereby appoints Walter MacDonald or, failing him, Leo Enright or, failing both of them, a voting member of the Society to be appointed by the Executive Committee, to attend and vote on behalf of the undersigned at the annual meeting (the "Meeting") of the Society to be held at the 1993 Halifax General Assembly and at any adjournments, for the election of officers, the appointment of auditors, the enactment or amendment of by-laws, the determination of the Society's fees, and on such other business as may properly come before the Meeting, and I hereby revoke any proxy that I have previously given.

If I have not completed, or have not properly completed, the section headed "SPECIAL INSTRUCTIONS" below, then I hereby authorize the holder of this proxy to vote on my behalf on any and all matters covered by this proxy in his/her sole discretion.

### SPECIAL INSTRUCTIONS

I hereby authorize and instruct the holder of this proxy to exercise his/her vote on my behalf in the following manner:

1. In respect of the proposed Society's fees referred to in the notice of the annual meeting of the Society [**Complete only one choice**]:

- in favour of the proposed fees: \_\_\_\_\_
- against the proposed fees and in favour of maintaining the existing fees \_\_\_\_\_
- as follows [**Provide specific instructions**]: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. In respect of any other matter that may properly come before the Meeting, as follows [**Provide specific instructions**]:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_, 1993.

\_\_\_\_\_  
Name of Member (please print)

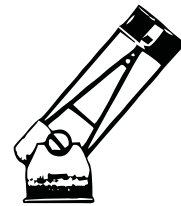
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Signature

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WELCOME TO

# INTERNATIONAL ASTRONOMY DAY



SATURDAY, MAY 1, 1993

BEING CELEBRATED BY MEMBERS OF THE KINGSTON CENTRE, RASC  
ON AND ABOUT THAT DATE BY THE FOLLOWING SPECIAL EVENTS:

## MAY 8 -- ASTRONOMY DISPLAY IN FRONTENAC MALL

As part of this year's celebrations surrounding INTERNATIONAL ASTRONOMY DAY, the members of the Kingston Centre of the Royal Astronomical Society of Canada (RASC) welcome you to our display, designed to give you a taste of the excitement and educational potential of the hobby of astronomy in the 1990s. Members of the RASC are on hand who will be happy to answer as many of your questions as we can. Various information materials have also been provided for your convenience.

\* \* \* \* \*

## JUNE 7 -- SPECIAL EVENT: PRESENTATION BY JACK NEWTON

On Monday, June 7, at 8:00 p.m., the Kingston Centre of the RASC invites you to attend a presentation by internationally renowned astrophotographer JACK NEWTON, of Victoria, B.C., on "Colour CCD Imaging: The New Frontier in Astronomical Photography." Admission is free.

LOCATION: Queen's University, Walter Light Hall (New Technology Building) at Union and Barrie Streets, Room 205.

\* \* \* \* \*

## JUNE 11 -- RASC REGULAR MONTHLY MEETING

On Friday, June 11, at 8:00 p.m., the Kingston Centre of the RASC will be having its regular monthly meeting. Our meetings are open to the public--free of charge. Anyone who is interested in astronomy is welcome to attend.

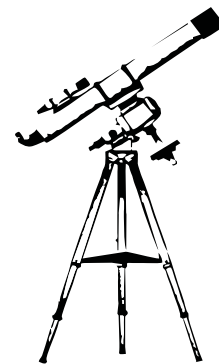
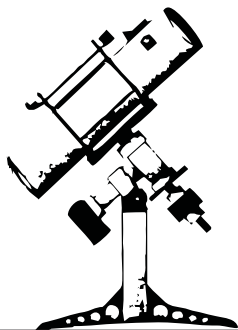
GUEST SPEAKER FOR JUNE 11 IS DENISE SABATINI whose presentation is entitled "The Interrupted Journey."

LOCATION: Queen's University, Mackintosh-Corry Hall, Room B-201.

\* \* \* \* \*

The Royal Astronomical Society of Canada  
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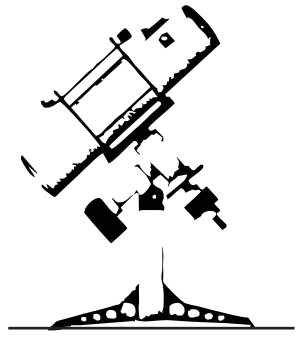


KINGSTON CENTRE

# SPECIAL PUBLIC EVENT

A PRESENTATION BY

## JACK NEWTON

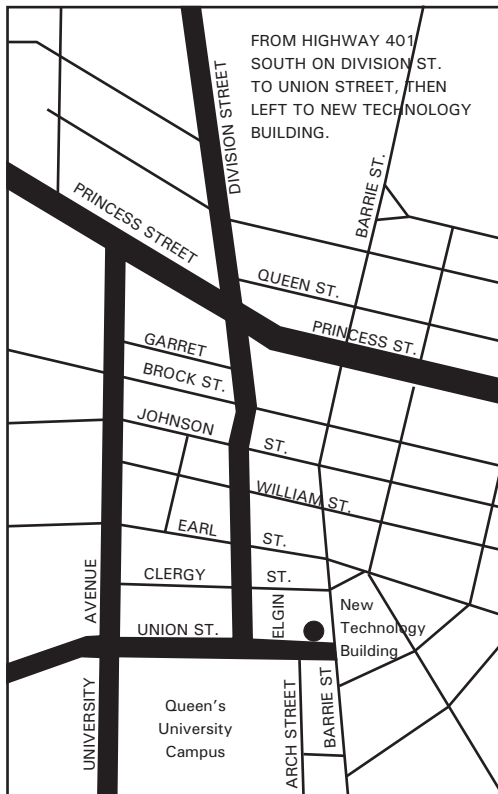


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STUNNING STATE-OF-THE-ART PHOTOGRAPHS  
OF CELESTIAL OBJECTS AND FOR HIS  
BOOKS ON ASTROPHOTOGRAPHY

TOPIC

**"COLOUR CCD IMAGING—  
THE NEW FRONTIER IN  
ASTRONOMICAL PHOTOGRAPHY"**

**MONDAY, JUNE 7, 8:00 P.M.**



**ROOM 205, WALTER LIGHT HALL,  
QUEEN'S UNIVERSITY  
NEW TECHNOLOGY BUILDING,  
UNION AND BARRIE STREETS,  
KINGSTON**

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