



REGULUS

JULY-AUGUST 1993

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

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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 p.m.

Fri., July 9 **REGULAR MEETING. Speaker, Dr. Dave Hanes, Department of Astronomy, Queen's. "Observing Globular Star Clusters With The Hubble Space Telescope."**

Fri., Aug. 13 **REGULAR MEETING. Speaker, Dr. Richard Henriksen, Queen's University Astrophysicist, "What's New In Cosmology—Part 2" (a continuation of his highly popular April talk).**

Sun. Aug. 22 **CHARLFSTON LAKE STAR PARTY—**
See article on page 7.

Fri., Sept. 10 **REGULAR MEETING — MEMBERS' NIGHT. A chance to hear various members speak about their recent observing activities, present observing tips, and other brief presentations on items of interest. If you would like to be on the program, please contact our president Christine Kulyk.**

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ADVERTISERS EYE THE SKY

FOR SPACE-AGE BILLBOARDS

By Martin Walker (The Guardian)

(The following article appeared in the Calgary Herald for April 16, 1993. Geoff Kennedy of Calgary obtained permission from the paper to quote the article, and sent it out through the RASC National Astronomy Chat BBS. Here it is with spelling/grammatical errors and all just as it was sent, and received.)

WASHINGTON – Within three years, the moon could have commercial rivals beaming their corporate logos from the nighttime sky under a new advertising scheme for billboards in space.



"LET'S GO, ROG! THERE'S NO INTELLIGENT LIFE
DOWN THERE!"

The first project was to have been launched over the city of Atlanta in 1996 to mark the Olympic Games, but city mayor Maynard Jackson personally vetoed the scheme and is now leading a storm of protest against the new marketing technology.

"My first reaction to it was, it's environmental pollution. I don't want to see billboards marring the sky," Mayor Jackson declared yesterday.

But Space Marketing Inc., the Georgia-based company now offering advertising's ultimate pie in the sky in a project being developed with the US Lawrence Livermore Laboratories., says it has five major corporate advertisers who are considering paying \$25 – \$30 million for the celestial service.

"It's very feasible. We could actually fly McDonald's golden arches in space," says Space Marketing's director, Mike Lawson, who adds that the billboards could look as big as the moon.

The mile-wide corporate images would be made of reflective materials, and pasted on a vast balloon made of Mylar plastic. Once rocketed into space, the balloon would be inflated, and the sun's rays would illuminate the reflective material, beaming the image down to earth.

"It can be made bright enough to be clear in daytime, too", said Orifessir (Professor?? - GLK) Ronald Humble of the University of Colorado, one of the engineers behind the idea. "Something like this is inevitable. If we don't do it, somebody else will".

"It's horrifying", commented Robert Park of the American Physical Society, who is rallying American scientists against the idea. "The thought that one would not be able to look at a starlit sky without having this thing intrude upon you is obscene. I think humanity has to rise up and stop this thing immediately".

Geoff Kennedy continues: "Obviously, I don't welcome that news. A few years back, I was successful in launching a protest within the RASC (I started with the Calgary Centre, and the Council expressed this protest to the National Office) against the construction and deployment of the "Space Ring", which was to commemorate the 100th anniversary of the Eiffel Tower. I believe that this protest was brought to the attention of the International Astrophysical Union (IAU), who condemned the project. I hope that the RASC, the IAU, the International Dark Sky Association, and other groups will join in protesting this latest planned obscenity. The nighttime sky should be declared an "Advertising Free" zone, much like the "No-Nukes" zones which are commonplace." He concludes with the following sagacious observation: "Never underestimate the power of human stupidity".

ASTRONOMY DAY / WEEK REPORT

By Bill Broderick

Astronomy Day/Week provides a great opportunity to "bring astronomy to the people" and once again, the Kingston Centre members went "all out" to do just that.

Our activities commenced with a public star party at Macdonald Park on Kingston's waterfront on May 1st. This had been publicized both by media releases and radio and television announcements. Also, Terry Dickinson was kind enough to mention the event in his Whig-Standard column and elsewhere. As a result of the fine advance publicity, an estimated 200 people attended the star party. We had at least eight telescopes set up, thanks to everyone who brought telescopes that night: Steve Manders, Leo Enright, David Stokes, Chris Collin, Jim Towgood, Kevin Kell, Bill Broderick, and unattached RASC member Fred Werthman of Amherst Island. Also present were Christine Kulyk, Kim Hay, Ruth and Terry Hicks, Peter Kirk, and Susan Gagnon. Hope I haven't missed anyone because the efforts of all are really appreciated. The weather was clear, and people got some great views of the moon, Jupiter, etc. "Wow!" "Oh, that's neat!" and, "Hey, I can see the cloud belts!" were frequent remarks heard as people put their eye to this telescope or that.

We had about 50 flyers available to hand out to people advertising other events taking place the following week—our upcoming general meeting on May 7th at which Terry Dickinson would be speaking and our Frontenac Mall Display on the following Saturday. We soon found that 50 flyers were far too few—we could easily have handed out four times that many! (Take notice for next year.) We also had a small quantity of our Centre brochure on hand and a few of these were handed out or taken as well.

On Monday, May 3rd, the Whig-Standard carried an article by staff writer Alec Ross about our public star night, stating that "hundreds of people" had attended. Mr. Ross was present for practically the whole evening, circulating around and talking to people, both the public and telescope operators and occasionally taking a look himself. For the most part the article was well-written, although it did contain some errors—the most serious being that it put our upcoming mall display in the wrong mall. (It might be an idea in future to have a special hand-out for any members of the press who attend.) The article concluded by mentioning our Friday, May 7th meeting, at which Terry Dickinson would be speaking. Thanks, Whig-Standard.

Terry Dickinson's talk on May 7th, entitled "The Southern Sky From Las Campanas, Chile," was attended by what has to be a record crowd of nearly 200 people! About 40 Kingston Centre members attended, plus two out-of-town RASC visitors (Toronto and Windsor), and over 140 non-members (from Peterborough to Brockville). Indeed, the crowd was so large that Terry had to give his talk twice. The RASC members retired to another room where we could have our regular Centre meeting while Terry gave a "public" presentation and copies of some of his books were sold and autographed. After 9:30 p.m., we went back upstairs to Room B-201 and Terry gave a more "in depth" talk geared to the members.

Terry and long-time friend and colleague Alan Dyer, who is Associate Editor of Astronomy, and with whom he co-authored The Backyard Astronomer's Guide, visited the Las Campanas Observatory high in the Atacama Desert of Chile, for 10 days in March and April at the invitation of the University of Toronto. They found the "seeing" there truly incredible—every night clear!—and the slides that Terry brought back were equally incredible. Even in the daytime the sky was a deep, dark blue—not the milky white we are used to.

Besides their own equipment, Terry and Alan had the use of the University of Toronto Southern Observatory's 61 cm telescope. This instrument was renamed the Helen Sawyer Hogg Telescope at a special ceremony held at the David Dunlap Observatory on June 19th, 1992, in honour of her work in the field of variable stars in globular clusters and her 57 years

(Continued page 4)

of distinguished service to the University of Toronto. (Dr. Hogg subsequently passed away on January 28, 1993.) Terry had many superlative shots of the southern Milky Way, Magellanic Clouds, Coal Sack, the Southern Cross, and other celestial sights never seen from Canada. He also captured Venus at inferior conjunction on April 1st, many fine views of the Las Campanas Observatory complex itself, which contains 42 telescopes on five mountains, views of the surrounding area, and several shots of some small cat-like foxes which at one point managed to wheedle a roast-beef sandwich out of him.

This was a tremendously interesting presentation for both the public and RASC members and Terry gets a special vote of thanks for putting it on for us, particularly in conjunction with Astronomy Day/Week.

Again we had our Centre brochure available and also more flyers advertising meetings in June and July, including the special public meeting on June 7th at which Jack Newton will be speaking. Most of this material was picked up. During the membership meeting, Kim Hay, our secretary-treasurer, reported that we had gained two new members so far.

The next day, Saturday, May 8th, a number of members were on hand for our mall display, held at the Frontenac Mall in Kingston, among them: Leo Enright, Christine Kulyk, Stan Hanna, Peggy Torney, Steve Manders, Chris and Irene Collin, Peter Kirk, Hein and Jean van Asperen, Kim Hay, Ian Levstein, Kevin Kell, David Stokes, Bill Broderick. (If I've left anyone out, I sincerely apologize.) The display was impressive indeed, with lots of material well-presented. Leo Enright had a number of examples of his fine astro-photography, Hein and Jean van Asperen brought out their solar system model on which can be displayed the current positions of the planets, and Bill Broderick set up our newly-created display posters. The light-pollution items seemed to attract particular attention, something to take note of. Steven Manders showed off "Dance Of The Planets" on his computer. And as always, we had a number of telescopes on display.

Again, we had a good supply of brochures and flyers available, many of which were picked up or handed out. This kind of material really seems to help, and it's easy to make up.

In addition to our Centre brochure, which outlines the benefits of RASC membership and now also includes an application form, we also had on hand a new brochure entitled "Do You Need A Speaker...?" This brochure explains that our Centre can provide a speaker on some aspect of astronomy for almost any occasion, also telescopes for a "private star party." For adult clubs and groups, a fee of between \$50.00 and \$100.00 (negotiable) is payable to the Centre; for youth groups, schools and such, there is no charge. Many of these brochures were taken also.

Throughout the morning we noticed that announcements were coming over the P.A. system periodically mentioning different things going on in the mall that day, so Christine and Bill wrote up a short announcement about our display. Bill was able to locate someone in the mall office and at one point in the afternoon the following announcement came over the P.A.:

Attention shoppers! We invite you to visit the International Astronomy Day Display located at the eastern end of the main concourse next to the information booth. There are pictures, posters, books, and telescopes to look at and lots of free information about astronomy. Members of the local Kingston Centre of The Royal Astronomical Society of Canada are on hand to answer any questions you may have about astronomy or about the group. The display is open all day until closing. Do drop by and have a look at this very interesting display. Thank you!

Thank you very much, Frontenac Mall.

(Continued page 5)

NEWS AND NOTES

NEW MEMBERS

A very warm welcome to those members who joined Kingston Centre in May and June: DOUG ANGLE of Sydenham, MURRAY DUNN of Kingston, SULO and JEAN HALME of Bath, BARNEY ROBINSON of Belleville, DR. H.M. SMITH of Napanee, and MAURICE SMITH of Barriefield. We are also pleased to welcome back HELENE B. MCDONALD of Trenton and MARGARET FITZPATRICK of Kingston. These new memberships and renewals bring our membership to a total of 65, the highest in the history of the Kingston Centre.

SKY & TELESCOPE DISCOUNT PLAN

Sky Publishing Corporation is offering a **Club Discount Plan** to astronomical groups and organizations. The club discount price for the magazine is **\$29.96 U.S. per year (including GST)**, a saving of \$6.42. Club members also receive a **10% discount** on all other **Sky publications and products**. All they require is a minimum of **five members** in the Plan. Members who have full-price subscriptions may enrol in the Plan now by renewing early through their Club and have their subscriptions extended for a year. The Kingston Centre is now a participating member of the Plan. To add your subscription and boost our participation, please see our Secretary-Treasurer KIM HAY during any meeting. And remember, when ordering Sky Publishing products and publications, to claim your 10% discount.

STARFEST '93

The NORTH YORK ASTRONOMICAL ASSOCIATION invites all astronomers to attend their twelfth annual astronomy convention—"STARFEST '93"—which takes place August 20 to 22, 1993. The weekend includes observing sessions, formal and informal slide presentations, workshops, and a Twilight Talk. Speakers this year include JACK NEWTON, AL NAGLER, PETER CERAVOLO, TERENCE DICKINSON, DAVID LEVY, DOUG GEORGE, etc., etc. Observers are invited to bring their slides and telescopes and share their observing experiences. STARFEST is held at the **River Place Campground**, near Mount Forest, Ontario (approximately 160 kilometers northwest of Toronto). For more information, contact ANDREAS GADA at (000) 000-0000, or write him at XXXXXXXXXXXXXXX, Toronto, Ontario XXX XXX.

SETTING SAIL FOR THE GA

Best wishes to those Kingston Centre members who are attending the GA in Halifax, N.S. Some five or six are going that we know about, maybe more. Y'all have a great time and come back with some good reports now, y' hear!

ASTRONOMY DAY/WEEK REPORT (continued)

As a result of our Astronomy Day/Week activities, we had gained, at the time of writing, at least four new members, and two renewals of memberships which had lapsed, bringing our Kingston Centre membership to 62—the largest since the Centre's formation in 1961—and still climbing! We also received very favourable media and press attention. And we had a heck of a lot of fun. We can't ask for too much more than that, can we?

In conclusion, I would like to extend once more a big THANK YOU to everyone who helped in any way to make our Astronomy Day/Week activities so successful. I also want to thank our Centre President CHRISTINE KULYK for reading the drafts of this report and providing information and numerous helpful suggestions.

Respectfully submitted,

BILL BRODERICK

JACK NEWTON: ASTRO-IMAGER EXTRAORDINAIRE

By Leo Enright

On Monday, June 7, over 75 members and guests of the Kingston Centre were treated to an outstanding presentation of astronomical images by one of the world's foremost practitioners of the art. Jack Newton travelled to Eastern Canada from his home near Victoria, B.C., in order to share with fellow amateur astronomers some of the outstanding celestial imaging that has made him well-known and admired throughout the astronomical world.

His stunning slide presentation was a chronological review of highlights in a long career of photographing the heavens. Jack told of how he began as a child with a small refractor and a desire to prove to his friends that he really had seen the moons of Jupiter and other objects of the night sky. A camera would allow him to do this. Before long he was involved in a life-long pursuit, building ever larger telescopes and observatories and employing ever more sophisticated imaging techniques, and sharing his experiences with others across the country and around the world. Throughout the late 1950's and the '60's, and the '70's he used the best of the steadily improving photographic films for recording images. Later he employed a cold camera and made use of film hypersensitizing. These methods of astrophotography enormously increased the range of detail that could be shown on the images. A decade ago his hypersensitized film was recording nebulosity and details in faint galaxies that were comparable to images on the best photographic plates taken by professional astronomers a decade earlier.

His interest in the cold camera technique led to his establishing his own company to manufacture a type of cold camera that allowed the film to be advanced and the camera to hold a whole roll of film—a considerable advance in technology over the type of cold cameras previously available to amateur astronomers, namely, those that would accept only one frame of unexposed film at a time.

As Jack moved from Winnipeg to Toronto and then to Victoria, he built in each location a larger observatory to accommodate his latest, larger, home-made telescope. His latest observatory, completed a year ago, is part of his magnificent home on a mountain-top on southern Vancouver Island overlooking the beautiful Strait of Juan de Fuca; it incorporates a 5m dome housing a 640 mm f/5 Newtonian telescope on an 11-tonne 3-story concrete pier, a darkroom, a machine shop, a computer room, and a home theatre. The telescope is guided by an IBM 386-40 computer and much of his imaging is now done by CCD, currently using an SBIG ST-6 camera which, used at first focus, can record a field of 10 arc minutes.

Jack has been a leader in experimenting with colour imaging using a CCD. By taking images successively through red, green, and blue filters and combining them, he has produced very stunning and "true colour" images of deep-sky objects. The possibilities of this new CCD technology, as Jack has developed it, are absolutely incredible. In ten seconds or less, he records dust lanes in relatively bright galaxies like M82! In fifteen to twenty minutes, he records astounding detail in 22nd magnitude galaxies! He records jets (23rd magnitude!) on quasars and galaxies never before seen or photographed by anyone! His images rival those of the largest telescopes on earth.

Our Kingston audience was stunned by the images of numerous objects—the dust lanes of the galaxy NGC891 as we had never seen them before, the astounding detail in the Eagle Nebula, the colour and extent of the nebulosity in M27 and M76. One could go on and on.

Many in the audience were awed by the quality of work which Jack has produced in the time he has been using CCD technology, and by the fact that he also finds time to continue to produce books and articles to assist amateur astronomers. One popular book has recently entered the market; two more are on the way.

For Jack Newton a long tradition of astrophotographic excellence continues. His CCD imagery is, undeniably, the best we have seen anywhere. We were extremely fortunate that Jack Newton Was able to come to Kingston and share it with us.

THE 1993 CHARLESTON LAKE STAR PARTY

By Terence Dickinson

This summer the annual CHARLESTON LAKE STAR PARTY will be held on Sunday evening August 22 at Charleston Lake Provincial Park, 10 km north of Lansdowne. (Lansdowne is about midway between Kingston and Brockville.) This public star party has regularly attracted 250 to 500 people since the first event in 1987. Remarkably, it has been at least partly clear every year.

The star party begins at dusk with a half-hour talk and slide show in the park amphitheatre. Then everyone walks about 200 metres to the telescope site for viewing of Saturn, the moon and anything else the telescope operators wish to show.

In previous years, four or five telescopes have been made available thanks to kind assistance from Kingston Centre members. I couldn't handle such a crowd myself! There is a small honorarium for telescope operators and I certainly appreciate the help I have had so far.

Anyone reading this is welcome to come and bring a telescope. We need all the assistance we can get. There are sometimes lines of 50 or more people at each scope. Furthermore, this is a reasonably good site. The crowds are gone by about 11:15 and we turn from telescope operators to telescope users for the next hour or so. I thought mosquitos would be bad, but most years they have not been a problem.

If you are interested in bringing your telescope there is no need to contact me or the park. Just show up at the gate around 8:00 p.m. Tell the guard you are there as a telescope operator for the star party and you will be admitted free and given directions to the site. Because this is a park that people pay to enter, the audience wants to be there and everyone seems to have a good time. I have been very impressed with the quality of questions and level of interest in general at this event.

JUPITER FROM CHILE

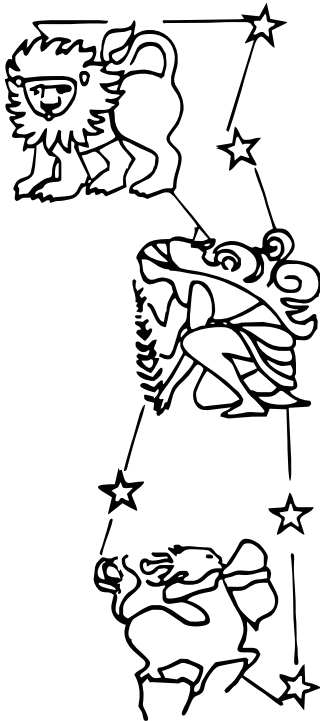
Jupiter with Great Red Spot and Little Red Spot, approx. 0.6" resolution, on April 1, 1993, 4h 59m U.T., from University of Toronto Southern Observatory, Chile. 24-inch telescope at f/35; 0.2" per pixel, preliminary tricolour image (Photometrics CCD). Photo by Terence Dickinson and Alan Dyer.

EDITOR'S NOTE: This black-and-white reproduction doesn't begin to do Justice to the original, which is in colour.



Sure, you've heard of Libra, Sagittarius, Pisces, Leo and the rest of the zodiac signs in the list of constellations below, but how about Monoceros (the unicorn)? Or Fornax (the furnace)? Or Pictor (the painter)? Now before you get too "starry-eyed", haul out your Telescopium (see last word in list) and begin solving! If you need help getting "star"ted, the word that goes into the outlined area can be found on page 179 of your Observer's Handbook 1993.

It's the last word in the list so easy to find. Have fun.
Have a great summer.



3 Letters

- Ara
- Leo

4 Letters

- Apus
- Coma (*Berenices*)
- Crux
- Lyra
- Pavo

5 Letters

- Aries
- Canes (*Venatici*)
- Draco
- Indus

- Libra
- Lupus
- Musca
- Norma
- Pyxis
- Virgo

6 Letters

- Auriga
- Caelum
- Cancer
- Carina
- Corona (*Borealis*)
- Corvus
- Crater
- Dorado
- Fornax
- Gemini

- Pictor
- Pisces
- Scutum
- Tucana

7 Letters

- Cepheus
- Columba
- Lacerta
- Pegasus
- Perseus
- Phoenix
- Sagitta
- Serpens

8 Letters

- Aquarius
- Equuleus
- Eridanus
- Scorpius

9 Letters

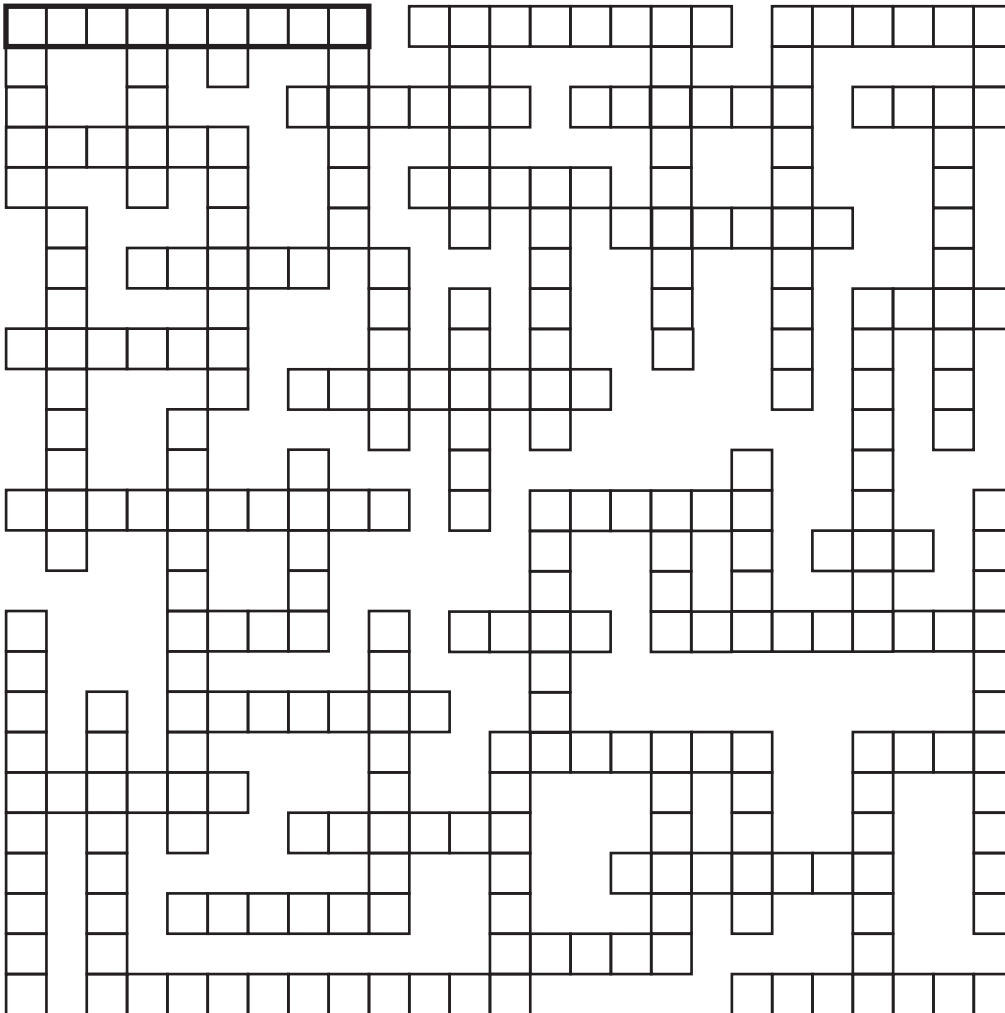
- Andromeda
- Monoceros
- Reticulum
- Ursa Major
- Ursa Minor
- Vulpecula

10 Letters

- Canis Major
- Canis Minor
- Cassiopeia
- Horologium

11 Letters

- Capricornus
- Sagittarius
- Telescopium



Solution

In the next issue

Contributed by
Denise Sabatini