



General Assembly 1997

Greetings, Fellow RASC Kingston Centre Member,

As you may already know, the Kingston Centre will be hosting the annual RASC national General Assembly in 1997 (June 27 to July 1, 1997, on the campus of Queen's University in beautiful Kingston, Ontario). This is the first time in Kingston Centre history that we will be hosting this national event, and we are gearing up for a very special weekend of astronomical activities.

We hope you will be able to attend. We have a great program planned, with an impressive array of special guest speakers (see enclosed brochure) and many other exciting activities. The General Assembly is the once-a-year opportunity for RASC members from across Canada and around the world to congregate face-to-face to get to know one another better, share our astronomical knowledge and experience with each other, and make plans to further the present and future aims of the RASC. Plus, it's one heck of a great party!

As a member of the host Centre for the 1997 RASC General Assembly, you have an opportunity to become involved in any of several ways in the success and excitement of this special gathering.

BECOME A GA COMMITTEE VOLUNTEER: Our GA planning committee is composed entirely of volunteers. Select the area of involvement that most appeals to you and contact the committee chairperson whose name is listed next to it.

Displays & Exhibits:	Kevin Kell 613-	Contests & Prizes:	Kevin Kell 613-
Registration Desk:	Kim Hay 613-	Hospitality Room:	Ruth Hicks 613-
Publicity:	Bill Broderick 613-	Fund-raising:	Kim Hay 613-
Tours:	Susan Gagnon 613-		

BE A BIG WHEEL: If you have a car and you live in the Kingston area, perhaps you would like to help out by putting in a few hours in picking up fellow RASC GA delegates at the airport, train, or bus station and transporting them to the Queen's campus; or perhaps in fetching supplies as necessary. (Contact: TBA)

PAPER SESSIONS: If you would like to give a short presentation (max. 20 minutes including Q&A) about your current astronomical activities or research, please contact Leo Enright (613-279-2577).

CONTEST ENTRIES: This is your chance to show your stuff, astronomically speaking! Note: Display space and facilities and song/poem/Murphy slide times are limited, so please contact Kevin Kell (613-546-2717) or Peggy Torney (613-279-2894) for details in advance, if you are interested in putting together an entry.

Display Contest: A chance to show off your best astrophotos or sketches, telescope designs, computer software, research projects, or other astronomy-related activity or items, and maybe win a prize!

Song Contest: Contestants perform a song with an astronomical theme of their own composition, either individually or as a group.

Pisces Poem Contest: Contestants recite/read a short poem of their own composition, either individually or as a group, about "the one that got away" (an astronomical observing session that went awry).

Murphy Slide Show: Contestants present one or more slides or short videos of an astronomical subject that fell afoul of Murphy's Law ("Whatever can go wrong, will.").

PRIZES, PRIZES, PRIZES! We will be awarding prizes in a number of areas, including the contest categories listed above, as well as door prizes. If you would like to donate a suitable astronomical item or gift certificate to be given as a prize at the 1997 GA, please contact Christine Kulyk (613-549-1461) or Kevin Kell (613-546-2717). Donated items should be in mint (unused) condition. All donors will be acknowledged with a listing in our Program Book and a mention at the time the prizes are handed out.

JOIN US! FOR FURTHER INFORMATION about 1997 GA registration fees and accommodation arrangements, please clip out and return the info-request form in the enclosed GA brochure. *** If you have already received a copy of the enclosed brochure, please pass this one along to an interested friend. *** Together, we will make it happen! Kingston is heaven in '97!

Peggy Torney (Chairperson)

Christine Kulyk (Secretary)



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

Fax: 1-613-545-2907 (with cover page to Kevin Kell)

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

Secretary: John Baker

Treasurer: Kim Hay

Editor: Kevin Kell

National Council Rep: Cathy Hall

Alternate Rep: Kim Hay

Librarian: Kevin Kell

Honourary President: David Levy

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

November 8th: Regular Meeting. Speaker: John Baker, Topic: Fun with Astronomical Algorithms
John will be displaying some computer generated imagery

December 13th: Annual Awards Dinner & Meeting (5:30-7:30 EastSide Marios at Division & Weller).

Speaker: Steve Manders Topic: Solar Wind

The source of the high velocities and temperatures of solar winds remains a mystery. A possible answer is semipermeable magnetic chimneys. Enormous heat is generated when solar plasma is forced to penetrate the compressed vertical polar magnetic field resulting in lower density at the centre of the chimney and venting similar to geysers on Earth. The process has now been modeled for computer analysis which supports this idea.

1997

FRI 1997 January 10

FRI 1997 February 14

FRI 1997 March 14

FRI 1997 April 11

FRI 1997 May 09 Cathy Hall & Walter McDonald on The Star Hill Inn



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:

Annual Dinner & Awards Night Friday Dec 13th
5:30-7:30 at East Side Marios Division at Weller

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

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. Copyright 1996. All rights reserved. Permission is granted to other publications of a similar nature to print material from Regulus provided that full credit is given to the author and to Regulus.



From The Editor

A new feature has been added due to tremendous public demand (well, actually 2 people asked)... a comet watch section listing the comets visible in the sky and some positional data for the next month or two.

Someone Stateside missed their newsletter last issue... the newsletter itself came back to us without the envelope! If you didn't get the 9605 issue (Sept/Oct) please let me know and I'll send out a replacement.

From The Prez

PRESIDENT'S REPORT

So far, 1996 has been a good year for the Kingston Centre. Our membership has continued to increase throughout the year and we have made great inroads on making our hobby known to the public. There have been several events of which, as president, I have been particularly proud.

First was presenting Ray Berg with his Messier Certificate. Second was seeing Leo Enright's photograph of Comet Hyakutake on both the cover of "Sky News" and in the RASC Observer's Calendar. Also seeing Mark Kaye's photograph of the same comet published in "Sky News" provided a sense of personal pride as I could say that these people belonged to the same Centre as I did.

There have been a number of excellent speakers through the Kingston Centre this year. And all of them have been members of the Centre. I found Bill Broderick's display of meteorites and Ruth Hicks talk about the asterism of the Big Dipper particularly memorable. And I would like to take this opportunity to thank Laura Gagne for helping me with a problem I encountered with the calendar's in my own talk.

We have combined our efforts this year. Dr. David Levy gave a talk for us in April. This we combined

with Queens' Alumni Affairs and held the lecture in Grant Hall where over 600 people attended. Dr. Judith Irwin was the chief organizer behind the CASCA conference that was held in Kingston this year and due to Judith's thoughtfulness, RASC members were invited to attend. And Queens' Astrophysics Department has assisted us with Observing sessions for Astronomy Day, and we have assisted them with public observing for lunar eclipses and comets.

And what President's report couldn't include the comet? What a show and what a way to draw attention to astronomy. C/1996B2 is certainly owed a BIG thank-you.

Several of our Centre members visited various Starparties this year and, as per usual, we made our presence known. These included Starfest, the Syracuse Seminar, Stellafane and the Huronia Star Party. At these parties we met old friends and made new ones. I'm glad I got to introduce a number of you to Greg Schmidt; and Greg to Hank's Barbarian. If you haven't been to a Starparty, go... they are more than worth any effort. And speaking of effort, I would like to wish out two members heading to Star Hill Inn the best of weather. We want to see lot's of wonderful shots (and the occasional Murphy -- just so that we know our Past Pres hasn't become deified yet).

So far it looks as if 1997 is shaping up to follow in 1996's footsteps. Kingston is hosting the General Assembly of the RASC between June 27 and July 1st next year and those plans are shaping up well. We have several invited speakers, including Dr. Gene Shoemaker, Dr. David Levy, Dr. Judith Irwin, Dr. Martin Duncan, and Terrance Dickinson. But, to make a GA complete, we need input from our membership, both Kingston's and the RASC's in general. If you have a short

presentation you would like to make, or a display you would like to show, even a photo that just didn't work, or a silly song or even a poem, check our home page and/or contact one of the persons on our committee. Or, if you'd just like to help out, please let us know.

I have enjoyed this year as the President of the Kingston Centre and I hope you will allow me to continue to act on your behalf through 1997. Clear Skies, Peggy Torney

From The Secretary

This report didn't make it in before press time but will be included in the next issue (9701).

From The Treasurer

Financial Results for the Kingston Centre Comparison for the last 3 years.

Year	Revenue	Expenditures	Net
1994	\$4480.12	\$3743.37	\$736.75
1995	\$7095.29	\$6122.77	\$972.52
1996	\$4311.88	\$4770.29	(\$458.41)

It has been a year of financial restraint in all aspects of business and hobby organizations. The Kingston Centre was no exception. Our fund depletion for this year is mainly due to increased paper costs, photocopying and postage. We are always trying to find new ways to lower the cost of our newsletter.

This year, we have used lighter paper, limited the size of our newsletters and have tried other ways of delivering the newsletter. The postage however is a fixed cost. Since this is just an overview of the last three years, if you would like a yearly financial report of the Kingston Centre, please let me know and I will send you one. If you have any suggestions or ideas that will help in the production of our newsletter, please contact our Editor, Kevin Kell.



Just a short note to keep you all up to date on what has been going on in the last few weeks.

By now, you will have probably received a membership renewal notice from UTP. If you have paid your membership dues to the Kingston Centre already, please disregard the notice. If have not renewed yet, please follow the instructions in the message below from our President of the RASC, Mr. Doug George.

Dear fellow RASC member:

You should recently have received from the University of Toronto Press (UTP) a form for renewal of your membership in the RASC. Please note the following clarifications on the procedure you should follow:

- If you have already renewed by remitting payment to your centre or the Society's national office in Toronto, please ignore the UTP renewal form. Your renewal will be processed and the necessary information will be sent to UTP.

- If you have not yet renewed, please submit payment to UTP but ***do not include the GST***. If you have already sent payment to UTP including GST, you may request a refund for the GST portion by mailing a request to the Society's office at the above address.

- Cheques sent to UTP should be made payable to "UTP." If you have already sent a cheque payable to "RASC," do not send another cheque; the cheque you have sent will be processed.

The status of GST on memberships in non-profit organizations has been in a state of flux lately. Proposed changes to federal legislation introduced earlier this year removed the GST exemption that had applied to these memberships. Because of lobbying by other organizations, these

proposed changes have recently been withdrawn, so the exemption from GST that has applied in the past is still in effect.

On another matter, the Society has acquired a toll-free telephone number which is intended primarily for new membership enquiries and for the placing of orders for publications. This number was incorrectly stated in the letter that accompanied the UTP renewal form. The correct number is 1-888-924-RASC (7272). I apologize for any inconvenience this may have caused you.

This is a time of exciting change for the Society. Our current Journal and Bulletin will be replaced by a single redesigned publication in 1997. Also, membership in the Society will include 6 issues of the full-colour magazine SkyNews; you should receive your first issue in December of this year.

I apologize for any confusion caused by the new renewal process and the inclusion of GST. A major restructuring such as the one the Society is now undergoing is never easy. I am confident that once this transition is complete, the Society will become better able to serve your needs. Yours sincerely, Douglas George
National President

If you have any questions, please send me a note at ([xxx]) or call be at 613-xxx-xxxx. Thank you all for your patience. Kim Hay
Treasurer Kingston Centre RASC

Last Meeting Minutes

The Annual Elections were held at the October meeting. New positions are effective 1997 January 01
Results:

President: Peggy Torney
Vice Pres: Christine Kulyk
Secretary: Laura Gagne
Treasurer: Kim Hay
Editor: Kevin Kell
National Rep: Kim Hay
Librarian: Jim Towgood
Alternate NCR: Susan Gagnon

Queen's has imposed a room charge on our meeting space. Initially it was going to run \$50 per meeting (\$600 for the month), which was way beyond our means to pay. With help from Judith Irwin (thanks!) we have negotiated a flat rate of \$100 for the year.

Some books donated by Terry Dickinson at the last meeting:
Stars Their Birth Life and Death by Iosif Shklovskii 1978
Atoms Stars and Nebulae by Lawrence Aller 1975
Impact Jupiter by David Levy 1995
The Solar Planets by VA Firsoff 1977
Frontiers of Astrophysics by Eugene Avrett 1976

Thank you Terry!

The update video list adds entries #9 and #10

RASC Kingston Centre Video Tape Library 1995 October 20

Tape #9 0:00 1995 Shoemaker Levy 9 vs Jupiter
Discovery Channel 0:47 Galileo Probe to Jupiter
0:51 An astronaut's view of Earth (narrated by William Shatner) 1:41 Weather, light pollution, calendar, 1:50 1987 Science Frontiers, future flight (narr by Christopher Reeve) 2:28 Quantum:
Galileo 2:50 Wonders of weather - lightning 3:10 1994 Stargazers, 100 years of seeing @ Lowell Observatory (narr by Patrick Stewart) 4:03 Bob Villa Weather station 4:10 1994 The Space Shuttle

Tape #10 The greatest show in Space Nasa 25 years 0:00 Freedom 7 0:14 Friendship 7 0:38 Four days of Gemini 1:02 This is Houston Flight 1:20 The Eagle Has Landed 1:45 Apollo 13 2:09 Apollo 15 2:36 Apollo 16 etc etc 7:25
Videotapes continue to be the most popular item signed out of the Centre Library!

National News



The National Email List has been debating a few new topics, including changes/options/etc to the Observers Handbook.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
"Flash Minutes" Motions of National Council 1996 10 26

Note: the following is presented merely to foster discussion and communication within the Society. This list of the motions considered at the meeting of National Council is completely unofficial and is the responsibility of the National Recorder. For official purposes, wait for the completed minutes in a few weeks.

MOTION 96401

It was moved by Dr. Brooks and seconded by Mr. Wagner that the meeting adjourn at 16h. The motion was CARRIED.

MOTION 96402

It was moved by Mr. Dick and seconded by Mr. Ascroft that the minutes of the meetings of National Council of 1996 06 28 and 1996 06 30 be approved.

The motion was CARRIED.

MOTION 96403

It was moved by Mr. Loehde and seconded by Mr. Shepley that the agenda for this meeting be accepted.

The motion was CARRIED.

MOTION 96404

It was moved by Dr. Brooks and seconded by Mr. Shepley to accept the list of new unattached members as circulated.

The motion was CARRIED.

MOTION 96405

It was moved by Dr. Brooks and seconded by Mr. McCarter that Membership Certificates be awarded to Mr. David Marchand (Windsor), Ms. Susan Sawyer- Beaulieu (Windsor), Mr. Frank Shepley (Windsor), Mr. Ralph Fraser (Halifax), and Shawn Mitchell (Halifax).

The motion was CARRIED.

MOTION 96406

It was moved by the Finance Committee that the Society's travel reimbursement policy be amended so as to allow 100% reimbursement of eligible travel expenses once per year for non-officer members of Council to attend a non-GA Council meeting.

MOTION 96407

It was moved by Dr. Gupta and seconded by Mr. Dick to amend MOTION 96406 so that no more than one 100% reimbursement shall be awarded to a member attending a non-GA meeting of national Council as National Council Representative of a Centre per year for each entitled National Council Representative position.

MOTION 96407 to amend MOTION 96406 was CARRIED.

MOTION 96406 was CARRIED as amended.

MOTION 96408

It was moved by the Finance Committee that the

Society's travel reimbursement policy be amended so as to increase the accommodation allowance to \$75 per night for up to two nights for non-GA Council meetings.

The motion was CARRIED.

MOTION 96409

It was moved by the Finance Committee that the Society's travel reimbursement policy be amended by replacing all references to "membership year" with "calendar year."

The motion was CARRIED.

MOTION 96410

It was moved by the Finance Committee that a grant of \$2500 be awarded to the Vancouver Centre for the purchase of computer equipment for the CARO project.

The motion was CARRIED.

MOTION 96411

It was moved by Mr. Attwood and seconded by Dr. Brooks to remove MOTION 96215 from the table. The motion was CARRIED.

Note: the following quote is taken from the minutes of the meeting of National Council of 1996 06 28: "MOTION 96215 It was moved by Mr. Broughton and seconded by Mr. Ceravolo that the April issue of the new publication of the Society contain all the information formerly contained in the Annual Report.

MOTION 96216

It was moved by Mr. Watson and seconded by Mr. Ascroft to table MOTION 96215. The motion was CARRIED."

Consideration of MOTION 96215 continued.

MOTION 96215 was DEFEATED.

MOTION 96412

It was moved by the Publications Committee and seconded by Mr. Loehde that the Annual Report be published as a separate 8 1/2 by 11 inch folded/stapled booklet of approximately 44 pages to cost no more than \$4,500. This report will be mailed with the April mailing and will contain the information normally included in the Annual Report.

Mr. Dick suggested that it would not be necessary to specify the size of the format of the Annual Report. Mr. Attwood and Mr. Loehde accepted this as a friendly amendment.

MOTION 96413

It was moved by Dr. Gupta and seconded by Mr. Loehde that MOTION 96412 be amended so that the Annual Report produced as a result of MOTION 96412 not include the reports from Centres, and that the cost not exceed \$2,500. MOTION 96413 to amend MOTION 96412 was DEFEATED.

MOTION 96412 was CARRIED.

MOTION 96414

It was moved by the Publications Committee to rescind MOTION 96315.

MOTION 96414 was CARRIED.

MOTION 96415

It was moved by Dr. Brooks and seconded by Mr. Dick that the name of the Society's new publication be "Polaris" with the subtitle "Journal of the Royal Astronomical Society of Canada/Journal de la Societe d'Astronomie du Canada." Ms. Hall

suggested that the name of the Society's new publication be "Journal of the Royal Astronomical Society of Canada/Journal de la Societe d'Astronomie du Canada" and that "Polaris" be the subtitle, and that the subtitle be featured prominently on the cover while the name be featured less prominently. This was accepted as a friendly amendment by the movers of MOTION 96415.

The motion was DEFEATED.

MOTION 96416

It was moved by Mr. Jedicke and seconded by Mr. Dick that the name of the Society's new publication be "Polaris" with the subtitle "Journal of the Royal Astronomical Society of Canada/Journal de la Societe d'Astronomie du Canada."

The motion was DEFEATED.

MOTION 96417

It was moved by Mr. Jedicke and seconded by Mr. Dick that the editorial board select a name for the new publication.

The motion was DEFEATED.

MOTION 96418

It was moved by Mr. Loehde and seconded by Mr. Skerratt that the time of adjournment be extended to 16h15.

The motion was CARRIED.

MOTION 96419

It was moved by Mr. Dick and seconded by Dr. Garrison that the time of adjournment be extended to 16h30.

The motion was CARRIED.

MOTION 96420

It was moved by Dr. Brooks and seconded by Mr. McCarter that an NGC Certificate be awarded to Mr. Kevin Black (Winnipeg).

The motion was CARRIED.

MOTION 96421

It was moved by Dr. Brooks and seconded by Mr. Ascroft that financial support up to \$300 be provided to the Quebec Centre for the publication of Almanach Graphique for 1997.

The motion was CARRIED.

MOTION 96422

It was moved by Mr. Wagner that the meeting be adjourned.

The motion was CARRIED at 16h27.

Date: Sat, 26 Oct 1996 23:00:22 +0100

From: Randall Brooks <Brooks@istar.ca>

Subject: Resignation

To all members of the RASC:

At the close of the National Council meeting today, I indicated to the President and the other members of the Executive, my intent to resign as National Secretary.

This is the strongest manner by which I can make a political protest of what is and has been happening in the Society and National Council. You should take this as a wake up call to demand that your National Reps and Executive respond to the membership



and its concerns.

This decision was not made on the spur of the moment but was the end result of the failure of Council to respect the wishes of the general membership with respect to the naming of the new publication. The membership, through the questionnaire mailed to all members, overwhelmingly voted almost 90% to rename the publication and this was again ignored. At the close of the Sunday Council meeting at the GA in Edmonton, I witnessed 3 members of Council congratulate themselves on derailing the expressed desire of the membership.

[Ed note: remainder of message edited for brevity]

General Assembly News

See the front cover for details (how could you miss it!)?

Software News

ECU v3.0 by Dave Lane

<http://fox.nstn.ca/~ecu/ecu.html>

The Earth Centered Universe (ECU) V3.0 is a Planetarium and Telescope Control Program for Amateur Astronomers. It is capable of simulating many of the features visible in the Earth's night sky. You only need to enter your geographic location and the time; the local sky will then be simulated on the screen in a colourful display.

This includes a database of over 15,000,000 stars (CDROM version), the planets, Sun, Moon, comets, asteroids, and 10,000+ "deep sky" objects.

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

Internet Tidbits

There are *so* many neat and interesting sites... This is my attempt to point out some of the interesting ones I have stumbled across: Near-Earth Asteroid Tracking Home Page <http://huey.jpl.nasa.gov/~spravdo/neat.html>

Mars Meteorites

<http://www.jpl.nasa.gov/snc/>

Mars Exploration Program

<http://www.jpl.nasa.gov/mars/>

Mars Pathfinder fact sheet

http://mpfwww.jpl.nasa.gov/MPF/fact_sheet.html

Comet Watch

Comets Currently Visible

Last Updated: 25 September 1996

Long-Period Comets

C/1995 O1 (Hale-Bopp)

C/1996 B2 (Hyakutake)

C/1996 (NEAT)

C/1996 N1 (Brewington)

C/1996 P2 (Russell-Watson)

C/1996 Q1 (Tabur)

C/1996 R1 (Hergenrother-Spahr)

Short-Period Comets

22P/Kopff

57P/du Toit-Neujmin-Delporte

65/Gunn

96P/Machholz 1

P/1996 P1 (IRAS)

Background Info

C/1995 O1 (Hale-Bopp) This possible super-star comet is visible most of the night. It is currently m1~5.5-6.0 and has been observed by a number of people with the naked eye.

C/1996 B2 (Hyakutake) The Great Comet of 1996 has faded to m1~12.0 or fainter. It is only a Southern Hemisphere object.

C/1996 E1 (NEAT) The comet is currently well-placed in the evening as a Northern Hemisphere object. It

reached +82 degrees declination in early September and drifts southward after that. The comet is currently about magnitude 11.5, but is very large and diffuse. It is a difficult object.

C/1996 N1 (Brewington) IAU Circular 6428 (July 4, 1996) reports the discovery of Comet 1996 N1 by Howard Brewington (Cloudcroft, New Mexico). This comet reached perihelion on August 3th with a perihelion distance of 0.92 AU - about the same as Comet Hale-Bopp.

However this comet is about 10,000 times fainter than Hale-Bopp. The comet has now faded to magnitude 9.5 and should continue to fade. At the beginning of October it will reach its highest declination of +58 degrees before it heads south. It will remain well-placed for Northern Hemisphere observers.

C/1996 P2 (Russell-Watson) IAUC 6448 (August 12, 1996) reports the discovery of a new comet by Kenneth S. Russell, Anglo-Australian Observatory, on U.K. Schmidt plates taken by Fred G. Watson. The comet is about 13th magnitude. The comet may be of short-period (IAUC 6449; August 13, 1996). It is also noted on IAUC 6449 that the orbit is very similar to periodic comet P/1994 J3. However, only parabolic elements are available to date. The comet is about 13th magnitude and well-placed for Southern Hemisphere observers. The comet will reach it's southern-most declination at the



beginning of October, but it is expected to fade.

C/1996 Q1 (Tabur) IAUC 6455 (August 21, 1996) reports the discovery of a comet by Vello Tabur, Wanniasa, Australian Capital Territory. This comet continues to brighten as it approaches the Earth and Sun. It should reach 5th magnitude in mid-October at which time it will be very well-placed in Northern skies. As it moves south, it will briefly become both a morning and evening object for Northern Hemisphere observers. The comet will move into the morning sky by November and continue to be observable as it fades. Southern hemisphere observers lose the comet by the beginning of October as it heads north. The comet will not be seen again until January 1997. By then the comet will be significantly fainter (perhaps 9th or 10th magnitude).

C/1996 R1 (Hergenrother-Spahr) IAUC 6470 (September 8, 1996) reports the discovery of a comet on films taken by Carl W. Hergenrother, University of Arizona, and Timothy B. Spahr, University of Florida, using the 0.41-m f/3 Schmidt at Mount Bigelow, Arizona. The comet is described as well condensed with a faint tail. It is currently about 11.5 magnitude. It is well-placed for observation and should fade slowly. Perihelion was in August. **22P/Kopff** This comet is well-placed in the evening sky (particularly for the Southern Hemisphere observers) and can be observed most of the night. It has faded to at least 10th magnitude. It is very large and diffuse making it a difficult object. The comet reached perihelion on July 2 and should slowly fade during the next several months.

57P/du Toit-Neujmin-Delporte This comet had an outburst, but has not been reported visually in the last month. It is visible in the morning

sky.

65P/Gunn This comet is currently m1~13.5 or fainter so large scopes are required. The comet has reached its peak brightness. It is heading for conjunction with the Sun. **96P/Machholz 1** This comet is very poorly placed for visual observation during this apparition. It is possible, but unlikely because of the Moon, that the comet will be picked up briefly in late September or early October by Southern hemisphere observers. After that, the comet is too close to the Sun. **126P/IRAS (P/1996 P1)** IAUC 6446 reports the recovery of P/IRAS (P/1983 M1 = 1983j = 1983 XIV) by R. M. McNaught, Anglo-Australian Observatory, on a plate taken by Q. A. Parker. The comet is currently ~12th magnitude and very far south (~-45 degrees). It will move north and brighten as it heads toward perihelion on October 30, 1996.

Orbit and Ephemeris Information for Comet 1995 O1 Hale-Bopp

Don Yeomans - JPL
September 12, 1996
Comet C/1995 O1 (Hale-Bopp)
JPL Ref. Solution: 41
Planetary Ephemeris: DE403
No. Observations: 1252
Observation Arc: 1995 Jul 24 - 1996 Sep 10
Corrected Elements (J2000): Solution 41
Epoch 2450520.50 = 1997 Mar 13.00

Post-Fit Std.Dev.

e 0.995073656 .000002419
q 0.914084546 .000003040
Tp 2450539.6398521 .0006829
1997 Apr 1.13985
Node 282.4707099 .0000063
w 130.5926947 .0001932
i 89.4298276 .0000567

Ephemeris computed using JPL orbital solution No. 41 dated Sept. 12, 1996
Magnitude predictions are based upon estimates by Charles Morris.
Ephemeris (with perturbations) for Comet C/1995 O1 (Hale-Bopp)

Date (UT)	R.A. J2000	Dec.	Mag
1996 Nov 9	17 45 02.05	-02 45 16.0	4.3
1996 Nov 14	17 48 46.99	-02 21 01.2	4.2
1996 Nov 19	17 52 53.18	-01 54 09.6	4.1
1996 Nov 24	17 57 19.91	-01 24 20.2	4.0
1996 Nov 29	18 02 06.89	-00 51 10.9	3.9
1996 Dec 4	18 07 14.13	-00 14 16.8	3.7
1996 Dec 9	18 12 41.83	+00 26 50.1	3.6
1996 Dec 14	18 18 30.30	+01 12 40.8	3.4
1996 Dec 19	18 24 40.01	+02 03 49.2	3.3
1996 Dec 24	18 31 11.94	+03 00 52.0	3.1
1996 Dec 29	18 38 07.77	+04 04 30.9	2.9
1997 Jan 3	18 45 29.80	+05 15 34.4	2.7
1997 Jan 8	18 53 21.01	+06 34 58.2	2.5
1997 Jan 13	19 01 45.10	+08 03 45.2	2.3
1997 Jan 18	19 10 46.98	+09 43 04.9	2.1
1997 Jan 23	19 20 33.41	+11 34 13.7	1.8
1997 Jan 28	19 31 13.57	+13 38 36.8	1.6

R.A. J2000 Dec. = Geocentric astrometric right ascension and declination referred to the mean equator and equinox of J2000. Light time corrections have been applied

TMAG = Total magnitude = -1.3 + 5.00*log(Delta) + 8.40*log(r)

Orbital elements from MPEC 1996-R05 (September 9, 1996)

TWO BODY EPHEMERIS (J2000.0 EQUINOX) FOR Comet 1996 Q1 (Tabur)

YR	MN	DY	R.A. J2000.0	DEC.	TMAG
1996	11	8	15 20.73	+34 23.5	6.2
1996	11	9	15 23.10	+33 43.1	6.2
1996	11	10	15 25.33	+33 3.7	6.3
1996	11	11	15 27.43	+32 25.4	6.3
1996	11	12	15 29.41	+31 48.2	6.4
1996	11	13	15 31.28	+31 11.8	6.5
1996	11	14	15 33.06	+30 36.4	6.5
1996	11	15	15 34.75	+30 1.9	6.6
1996	11	16	15 36.36	+29 28.2	6.7
1996	11	17	15 37.89	+28 55.3	6.7
1996	11	18	15 39.35	+28 23.2	6.8
1996	11	19	15 40.76	+27 51.8	6.8
1996	11	20	15 42.10	+27 21.1	6.9
1996	11	21	15 43.39	+26 51.1	7.0
1996	11	22	15 44.63	+26 21.8	7.0
1996	11	23	15 45.82	+25 53.1	7.1
1996	11	24	15 46.97	+25 25.0	7.2
1996	11	25	15 48.09	+24 57.5	7.2
1996	11	26	15 49.16	+24 30.6	7.3
1996	11	27	15 50.21	+24 4.3	7.4
1996	11	28	15 51.22	+23 38.5	7.4
1996	11	29	15 52.20	+23 13.2	7.5
1996	11	30	15 53.15	+22 48.5	7.6

EXPLANATION OF SYMBOLS
R.A. AND DEC. - J2000.0 = GEOCENTRIC RIGHT ASCENSION AND DECLINATION REFERRED TO THE MEAN EQUATOR AND EQUINOX OF J2000.0.
TMAG = TOTAL MAGNITUDE = 7.0 + 5.00*LOG10(DELTA) + 10.00*LOG10(R).

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 - Space Calendar (JPL)

November 1996

- * Nov 08 - Jupiter Occults Galileo
- * Nov 08 - STS-80 Launch, Columbia, Wake Shield Facility (WSF-03)
- * Nov 08 - Edmund Halley's 340th Birthday (1656)
- * Nov 09 - Comet Mrks Perihelion (1.413 AU)
- * Nov 12 - Jupiter Occults SAO 187632 (6.9 Magnitude Star)
- * Nov 14 - Iridium-1 Delta 2 Launch
- * Nov 14 - Andromedids Meteor Shower
- * Nov 15 - Asteroid 752 Sulamitis Occults PPM 120231 (6.0 Magnitude Star)
- * Nov 16 - Mars '96 Launch (Russia)
- * Nov 17 - Leonids Meteor Shower
- * Nov 23 - Asteroid 1993WD Near-Earth Flyby (0.2466 AU)
- * Nov 25 - Asteroid 1177 Gonnessia Occults PPM 181208 (7.5 Magnitude Star)
- * Nov 29 - Asteroid 4179 Toutatis Near-Earth Flyby (0.0354 AU)

December 1996

- * Dec ?? - New Kennedy Space Center Visitor Center Opens, Florida
- * Dec 02 - Mars Pathfinder Delta 2 Launch (Mars Lander/Rover)
- * Dec 06 - Comet Wilson-Harrington Perihelion (1.000 AU)
- * Dec 07 - Possible Mars Occultation of SAO 118840 (8.8 Magnitude Star)
- * Dec 13 - Geminids Meteor Shower
- * Dec 14 - Tycho Brahe's 450th Birthday (1546)
- * Dec 15 - Mercury At Its Greatest Eastern Elongation (20 Degrees)
- * Dec 21 - Winter Solstice 14:04 UT
- * Dec 22 - Ursids Meteor Shower
- * Dec 25 - Asteroid 1994 WR12 Near-Earth Flyby (0.0978 AU)
- * Dec 27 - Johannes Kepler's 425th Birthday (1571)
- * Dec 28 - Asteroid 972 Cohnia Occults PPM 96490 (7.7 Magnitude Star)
- * Dec 29 - Jupiter Occults 188551 (7.5 Magnitude Star)

January 1997

- * Jan 02 - Comet 1996 J1 (Evans-Drinkwater) Perihelion (1.2 AU)
- * Jan 03 - Earth at Perihelion (0.983 AU from Sun)
- * Jan 03 - Quadrantids Meteor Shower
- * Jan 09 - Jupiter Passes 0.8 Degrees from Neptune
- * Jan 10 - Asteroid 1991 VK Near-Earth Flyby

(0.0749 AU)

- * Jan 11 - 210th Anniversary (1787), William Herschel's Discovery of Uranus
Moons Titania and Oberon
- * Jan 12 - STS-81 Launch, Atlantis, 5th Shuttle-Mir Mission, SPACEHAB
- * Jan 12 - Comet Shoemaker-Levy 4 Perihelion (2.02 AU)
- * Jan 12 - Mercury Passes 2.7 Degrees North of Venus
- * Jan 12-16 - 189th American Astronomical Society (AAS) Meeting, Toronto, Canada
- * Jan 20 - Comet Hale-Bopp Crosses the Orbit of Mars
- * Jan 21 - Asteroid 1994 PC1 Near-Earth Flyby (0.0651 AU)

Buy, Sell & Trade

RASC Promotional Items For Sale:

Items in stock: (Prices and shipping costs)

- ☆ The 3rd edition of the Beginner's Observing Guide have arrived!
- ☆ **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-xxxxxxx email: [xxx]
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)

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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.

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email:[xxx] or call 613-xxx-xxxx (home)

