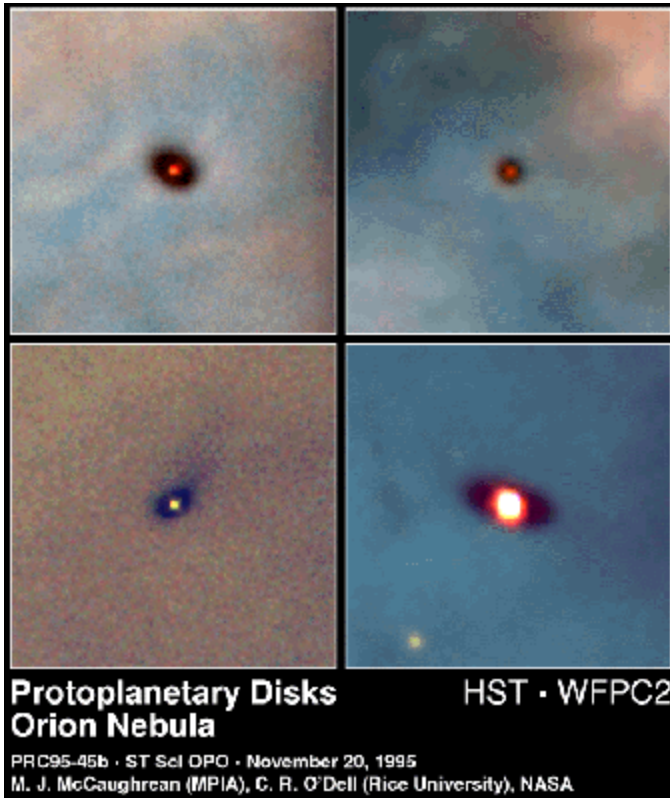


Welcome to 1996!



FOR RELEASE: November 20, 1995
PHOTO NO.: STScI-PRC95-45b

HUBBLE SPACE TELESCOPE SPIES PLANETARY SYSTEMS IN THE MAKING

These are Hubble Space Telescope images of four newly discovered protoplanetary disks around young stars in the Orion nebula, located 1,500 light-years away. Gas and dust disks, long suspected by astronomers to be an early stage of planetary formation, can be directly seen in visible light by Hubble.

Disks around young stars (also known as circumstellar or protoplanetary disks) are thought to be made up of 99% gas and 1% dust. Even that small amount of dust is enough to make the disks opaque and dark at visible wavelengths. The dark disks are seen in these images because they are silhouetted against the bright backdrop of the hot gas of the Orion nebula.

(For Story see page 8)

In This Issue

The Centre	2
Upcoming Meetings:	2
From The Editor	3
From the Prez	3
President's Report 1995	4
National Council Report	5
General Submissions	6
Telescope status:	7
Internet Tidbits:	7
Cover Story	8
The Electronic Age	8
Space Calendar	9
Financial Report	10



The Centre

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

Newsletter Submission Info:

email: kell@cliff.path.queensu.ca
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 ascii or most major word processors 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

Committee Chairs

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

Centre Address

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

Upcoming Meetings:

(Fridays 20:00 local)

1996 Jan 12th: Christine Kulyk

1996 Feb 9th: Terry Hicks "Gregorian Calendars" and
 Peggy Torney "The Moon Cycle in the Tres Riches Heures
 du Duc de Berry"

1996 March 8th: Jim Towgood "The India Eclipse"

1996 April 12th: David Levy "Astronomy at the
 Millenium: The latest Discoveries and What They
 Mean"

Abstract: The universe is revealing more of its secrets
 than ever before. As new technology enables us to look
 further outward into space, discoveries are being reported
 every week with equal fanfare and equal importance.
 This talk will seek to put some order into the waterfall of
 recently announced finds with the Hubble Space Telescope
 on other telescopes. Starting with what I believe to be the
 most important find of last year -- the dark pillars of the
 Eagle Nebula -- I will also discuss new planets, the Kuiper
 Belt, and other finds to put them into perspective.

May 9th:
 June 14th:
 July 12th:
 August 9th:
 September 13th:
 October 11th:
 November 8th:
 December 13th

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).

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.

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From The Editor

This first issue will almost certainly be not as complete as I would have liked but submissions have been coming in, even though members have not known where to send them!

Some of the Committee information is rather sparse as the chairs of most of them have changed. This will be completed for the next issue. If you wish to contact any of the standing committees just route it through the Centre Address listed.

A complete Centre Membership List is included in this month's newsletter. It is distributed to member's only

Any and all suggestions regarding the format and content of the newsletter are welcome. Especially so for submissions, which can be submitted in ASCII, WP and most standard word processors via email preferably, any other listed method otherwise. Images may be submitted either by 35mm slide or a print, both of which can be digitally scanned at high resolution.

Quotes on the Nature of the Universe:

Carl Zwanzig: "Duct tape is like the Force. It has a light side, a dark side, and it holds the universe together..."

From the Prez

"Message from the President"
submitted by Peggy Torney

As my first official duty as President of the Kingston Centre of the RASC, I would like to welcome our members, both new and old, to another fun filled year of astronomy. I especially want to welcome the many new members we have and I hope we can make you feel like part of the family very soon. There are several things that I would like to see the Centre accomplish this

year and one of the main goals is to involve all our membership, but most especially our new members, in more Centre activities. To accomplish this, a home page on the World Wide Web was set up last year and we would like to publish a membership list with e-mail addresses to the membership so that we can contact each other. At monthly meetings we will devote some time to group contests such as Astronomy / Astrophysics Jeopardy, Guess the Asterism and other related Trivia.

Last year we had a very successful Astronomy Day, with displays in two Malls. This year we can prepare an even more complete display. Let's get more of us out there, meeting the public and talking about one of our favourite subjects. There are other interest groups who would love to hear from us. We already visit local Cubs, Scouts, Guides and Brownies but certainly not all the units in our areas. Let's try to tell as many people about astronomy as we can.

This year the CASCA is meeting at Queen's University in Kingston. We have been invited to public lectures and I hope the Kingston Centre will make itself known as a friendly, helpful bunch.

Our Observing Committee will continue to try to have a successful night of star watching this year. Our first attempt was rained out this fall. Group observing is a relatively new thing for some members of the Kingston Centre. In the past, our observers were rather solitary souls. Then a number of our members discovered the joys of a "Star Party". This is the atmosphere we would like to capture for our observing sessions. Everyone is welcome, regardless of their observing abilities. There will always be something there for you to share with others.

Planning for the General Assembly of the RASC will be swinging into high gear this year. The Kingston Centre will be hosting this gathering of the National membership in 1997. We will be asking for your input as we would love to show off our members and their accomplishments.

Many of our members live well outside the boundaries of Kingston itself and cannot attend Centre meetings regularly. You are always welcome and if you know your are going to be able to attend a meeting and want to make a presentation or need some information, please contact me, or any member of the executive, and we will try to arrange something for you.

I hope you all enjoy this year.
Clear Skies, Peggy Torney

GA COMMITTEE REPORT

Only a year and a half before the big event! We have to get planning in earnest. Our next meeting is scheduled for Saturday, January 13th and another for Saturday April 13th. We will be asking our choice for the Ruth Northcott Speaker over the next month and will be able to tell you who will be speaking then.

We have big plans and want to show off as much of our home as possible. We would especially like to show the rest of the membership our local crater, at Holleford. We are tentively booked into Queen's University with most of our paper talks to be presented in Stirling Hall.

If you would like to join the committee, just attend a meeting or tell one of our members. If you have some suggestions of what you think we should include, again, please tell us. To help with this, a General Assembly Home Page has been set up through our Centre Home Page.



You will find the latest updates on the GA on our home page and we hope anyone who can, will access this.

For those of you who have never been to a General Assembly, they are modeled on a professional conference. But the likeness ends there. Presentations are made by members of the RASC after the abstract has been approved. Some of these are serious science, some are personal observing tips and some are humorous. There is a great deal of socializing, at mealtimes, after talks, around the meetings and on planned outings. There are activities that are fun for the non-observer and observer alike. And, of course, there is the Annual Meeting. There are contests and prizes and best of all, you get to talk to a bunch of other people who have at least one of the same interests that you do.

Later in the year we will be asking for volunteers for the actual days of the event. This will run between Thursday June 27 and Tuesday July 2, 1997. We would like to have a full turn out of Kingston Centre members so -- book those holidays now! Until next time, Clear Skies, Peggy Torney, GA Committee Chairperson

President's Report 1995

submitted by Walter McDonald

1995 was yet another successful year for the Kingston Centre: We had an exciting lineup of speakers at our meetings this year, the Centre was well-represented at events such as the Windsor GA and Starfest, and our members continue to be very active with the Society at the national level. To top it all off, the Centre has seen impressive growth in its membership!

I would like to thank everyone who gave a talk at a meeting this year. Speakers are a valuable resource — giving even just a short talk is a significant contribution to

our Centre. Supplementing our own local talent this past year were a number of out-of-town speakers. The complete list of meetings was as follows:

January 13th: *Dr. Martin Duncan* Origin of Comets

February 10th: *Leo Enright* -All About Meteors and How to Observe Them

March 10th: *Dr. Dave Hanes* -Globular Clusters

April 14th: various Astronomy Workshops, Telescope Night and Computer Demo

May 12th: *Paul Boltwood* -The Boltwood Observatory

June 9th: *Peter Ceravolo* - Through the Glass Clearly: Getting the Most Out of Your Telescope

July 14th: *John Gauvreau* -Atmospheric Phenomena

August 11th: *Rob Dick* -Skies Over Parinacota: Eclipse Trip November 1994

September 8th: various Members' Night

October 13th: *Cathy Hall* - How to Observe Meteors

November 12th: *Denise Sabatini* - Mithraic Origins

December 8th: *Steve Manders* -Solar Collisions: Their Effect on Earth

In addition to our regular monthly meetings, we had a special meeting on **June 16th**. On this occasion *Terry Dickinson* gave us a talk that was well illustrated with his spectacular astrophotography. This meeting was well attended by the general public, and Terry's talk was enjoyed by all.

Astronomy Day was held on Saturday, May 6. Thanks to Cathy Hall's energetic organizational efforts, Kingston Centre had two mall displays — one in Kingston and one in Belleville. There was no shortage of display material or telescopes at these events, and they were both very successful! Thanks are due to everyone who helped out. Astronomy Day displays are an excellent way to bring new people into our hobby, so the work involved is well worth the effort.

The General Assembly was held in Windsor over the Canada Day weekend. It was a small (but fun!) affair, and Kingston had the biggest delegation in attendance! At one of the National Council meetings

the Society gave official approval for Kingston to host the 1997 GA, so it's full speed ahead for our 1997 GA Committee! Peggy Torney, Denise Sabatini, and the rest of the GA committee will now be moving into high gear. Keep up the good work!

Besides the GA, summer brings with it the obligatory star parties. Our Centre was well represented at the Syracuse Summer Seminar and Starfest. Though there was only one night of clear skies at Starfest, even the clouds couldn't obscure an incredible bolide that passed overhead! Those who saw it won't soon forget it!

A number of Kingston members continue to be active nationally. Continuing this trend, Bill Broderick was named Chair of the RASC's Light Pollution Committee. Congratulations Bill!

At this time I would like to give special thanks to some people in particular: Kim Hay and Kevin Kell have worked hard developing materials such as our New Member's Package. Kevin Kell has set up a WWW page (see front page for URL address) for the Kingston Centre. Cathy Hall has helped me find many speakers for our meetings. Leo Enright filled in for me at a couple of meetings where I was absent or late (after all, the show must go on!). I would also like to thank the entire Centre Executive for their generous help and hard work during my two years as President. I couldn't have done it without you!

In conclusion, the Kingston Centre has seen steady growth over the last few years and has a bright future ahead of it. With the approval of our 1997 GA bid, the excitement and activity levels should continue to build throughout 1996! I encourage everyone to get involved — it's a great time to be involved with the Kingston Centre!

Clear Skies!

Walter MacDonald.



Quotes on the Nature of the Universe:

Woody Allen: "I'm astounded by people who want to "know" the Universe... when it's hard enough to find your way around Chinatown."

National Council Report

R.A.S.C. National Council Meeting, Nov 25/95 Submitted by Cathy Hall

The last National Council meeting for the Society for 1995 was held in Toronto on November 25th. RASC National President, Dr. Doug Hube, opened the meeting with the President's Report. This covered quite a variety of issues, some of which promise 1996 to be perhaps even more interesting than 1995.

The Simon Newcomb Award, for literary accomplishment in the Society, was awarded to Mike Watson. The closing of the McLaughlin Planetarium in Toronto, one of Canada's largest, was discussed. Dr. Hube talked about his visits to our Centres across Canada, with 19 visited to date during his term. The application of Kelowna, British Columbia, to join the R.A.S.C. as a Centre was approved in principle, subject to receipt of their bylaws.

The possibility of Comet Hale-Bopp providing a good promotional opportunity for the R.A.S.C. was discussed. Randy Attwood suggested that the promotion committee take on this project. He was put on the committee. The excellent report that Mr. Attwood had prepared on the use of special funds in the R.A.S.C. was mentioned, and will be discussed in further detail in 1996.

Dr. Hube talked about the recruitment

of unattached members by Centres of the Society, and the possibility of a policy being implemented was discussed. The concept of centralized mailing for Society publications, both for Centres and unattached members, was mentioned. The subject of future reorganization of National Office was broached. Comments on this matter should be sent to Doug George, 1st Vice President, at george@sce.carleton.ca

The Secretary's report was given by Dr. Randall Brooks. Of interest to Centres was a list of possible speakers from the Canadian Institute of Theoretical Astrophysics, which can be obtained from him at: brooks@husky1.stmarys.ca Charitable tax receipts were mentioned. As the Society is a registered charity, tax receipts are available for both monetary donations, and donations of equipment and goods in kind. Equipment must be appraised, and Dr. Brooks mentioned that he is qualified to provide the documentation required by Revenue Canada. On a correspondence note, a group of amateurs in Vernon, British Columbia has requested information on the R.A.S.C..

Raymond Auclair was thanked for his efforts in translating the Society bylaws into French, for those Centres wishing to use Canada's other language. Dr. Brooks announced the awarding of Messier Certificates to Donald Dunn of the Ottawa Centre, and to Kevin Black of the Winnipeg Centre. A Finest N.G.C. Certificate was awarded to Fr. Lucian Kemble of the Calgary Centre.

The Treasurer's report was given by Dr. Rajiv Gupta, soon to go on sabbatical. His budget as presented was passed by the Council. It included an increase of \$1000 in the Executive Secretary's salary, bringing the 1996

budget figure for Salaries and benefits up to \$47,000.

The largest revenue and expense items continue to be the Society's publications. A grant of \$300 was given to the Quebec Centre towards their L'Almanach Graphique.

The Librarian's report was given by Walter MacDonald. He spoke about the video tapes available for loan to Centres, and encouraged members to donate tapes of speakers' talks to the library. Compensation for these tapes is available.

The Editors of the Society's publications presented their reports. The Editor of the Journal mentioned that there was a lot of material available. He recommended that, in future, honorariums be given to invited speakers only after receipt of papers agreed upon. The Editor of the Handbook said that the number of Handbooks printed has been declining in the past 15 years, and that it is an issue to be studied. The Beginners Observing Guide Editor recommended a reprint due to demand, which was approved.

The Astronomy Day Coordinator, Sandy Ferguson, sent a brief report for the meeting. She will be resigning after 1996, so a replacement for the position will be sought. The theme for Astronomy Day for 1996 will be 'Canadian Discoverers'.

Reports of Standing Committees followed. The Montreal Centre bylaws have been passed, and the bylaws for the Ottawa Centre are being considered. The Nominating Committee will be considering names for the following positions coming open in 1996: President, 1st Vice President, 2nd Vice President, Secretary, and Astronomy Day Coordinator. Any comments on nominations should be sent to Peter



Broughton at:
[xxx]

There were a variety of reports from Special Committees. David Lane gave a report on the Computer Use Committee, including the R.A.S.C. World Wide Web home page he has been working on. A report was received from Fred Smith of the St. John's Centre, with suggestions for the General Assembly Guidelines Committee. Bill Broderick gave a presentation on the Light Pollution Committee, and a request for funding for 1996. After discussion, funding of \$3000 was approved.

The Publication Revitalization Committee presented a report. The prototype of 'Astronomy Canada', the proposed publication to combine and replace both the Journal and the Bulletin, has been mailed out to all members. Members are requested to mail back in the reply card attached. It is very important that the Society receive as much feedback on this as possible. If you haven't mailed yours yet, mail it now!

The RASC Calendar is selling well, and funds were approved for the coming year.

General Assemblies were discussed. The G.A. in Windsor, Ontario, made a profit, although the number of conference attendees was less than expected. The 1996 G.A. in Edmonton, Alberta, will run from June 27 to July 1, with its Hogg Lecturer being Dr. Werner Israel, speaking on 'From White Dwarfs to Black Holes'. The 1997 G.A. will be held in Kingston, Ontario. Victoria, British Columbia has expressed interest for 1998, and Toronto, Ontario for 1999, the latter possibly a joint conference with the Astronomical Society of the Pacific.

An invitation from the London Centre, to host the February 1997 National Council meeting, was accepted.

The closing of the McLaughlin Planetarium was discussed in more detail by Randy Attwood of the Toronto Centre. R.A.S.C. Toronto meetings are now being held at the Ontario Science Centre. A letter is being sent by the R.A.S.C. National Council to the Royal Ontario Museum opposing the closure.

Other business was mentioned. The duties of National Council Representatives were emphasized. Mike Watson mentioned the possibility of an R.A.S.C. expedition to Venezuela for the total solar eclipse in 1998. The Niagara Centre is losing the land on which its observatory is situated, and is negotiating with one of the conservation authorities for a possible relocation site.

The date for the next R.A.S.C. National Council meeting was set - Saturday, March 23, 1996. It will be held at Smith Lyons, Scotia Plaza, 40 King Street West, Toronto, Ontario, starting at 10.00 a.m.. The meeting was adjourned.

Quotes on the Nature of the Universe:

Calvin & Hobbes: "The surest sign that intelligent life exist elsewhere in the universe is that it has never tried to contact us."

General Submissions

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

Here are some excerpts from some of

the letters we received:

From B.S.C. Rao in Bangalore, India:
...Now for just a few words about amateur astronomy in India. As a hobby, it is doing very well and, in India, we have several clubs (I think it is in excess of twenty -- though unfortunately no one has yet counted the total number) in various cities. The first -- the Madras Astronomical Association -- was started in the late 1950's or early 60's, and, as far as I know, the second one -- the Association of Bangalore Amateur Astronomers -- was started by me in Bangalore in early 1976. The MAA is now almost defunct, but the ABAA is doing well. There are other very active clubs in Bombay, Delhi, Calcutta, Ahmedabad and other major cities in India. Our biggest problem still remains availability of good parts and equipment (so we make do with plate glass blanks, and whatever we can scrounge or fabricate -- anyway, that's what amateur astronomy is all about, isn't it?) Right now there's quite a good deal of excitement building up among both professional and amateur astronomers alike in view of the total solar eclipse on October 24th, which will be visible in India after a lapse of 15 years. I myself am also planning to go to Calcutta to witness it with my family.

I look forward to being a member of your Centre and receiving your newsletter and the new member's package...

From Paul H. Bock, Jr. in Hamilton, VA, USA:

...Having been a "member at large" of RASC for the past several years, and having earned the RASC Messier Certificate "on my own," as it were, I'm very pleased at the prospect of having a "home" within the organization. In fact, having visited Canada (Montreal) for the very first time ever this past summer, I look



forward to having an excuse to visit more often!...

From Richard W. Schmude, Jr. in Barnesville, GA, USA:

...I am looking forward to the RASC meetings in 1996 (Edmonton) and 1997 (Kingston). The 1995 RASC meeting in Windsor was a very enjoyable one...

Quotes on the Nature of the Universe:

Douglas Adams: "In the beginning the Universe was created. This has made a lot of people very angry and been widely regarded as a bad move."

Telescope status:

The Centre mirrors have been done! (Refinished that is) The primary was glued into its cell, so we have the world's only aluminized primary mirror cell! They will be returning to Kingston shortly and reassembled back into the telescope shortly after that.

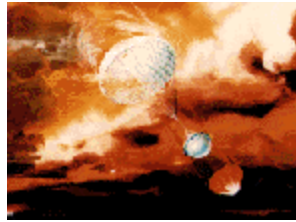
"Veni, vicidobsonus, vidi..."
(I came, I got a large aperture Dobsonian, I saw...)

Quotes on the Nature of the Universe:

Albert Einstein: "Only two things are infinite, the universe and human stupidity, and I'm not sure about the former."

Internet Tidbits:

The NYAA (North York Astro Assoc) home page is now online at:
<http://www.unicom.org/~nyaa/nyaa0.htm>



GalileoReaches Jupiter

After a six-year, 2.3-billion-mile journey, the Galileo spacecraft reached Jupiter December 7, with the main spacecraft entering orbit around the solar system's largest planet as the probe plunged into Jupiter's atmosphere.

The Galileo Probe entered Jupiter's atmosphere at 5:04 pm EST December 7, transmitting data to the orbiter spacecraft as it descended into Jupiter's atmosphere. At 8:20pm EST the Orbiter's main thruster fired for 49 minutes, placing the \$1.3 billion spacecraft into orbit around Jupiter.

The next major event for the Galileo Orbiter is in late June, when the spacecraft makes its first close approach to Ganymede, the largest moon in the solar system. Galileo will flyby two other large Jovian moons, Callisto and Europa, during the next two years, as well as study the planet and its magnetic environment.

NASA officials were very pleased with Galileo's performance last week. "Is this a great day or what?" NASA administrator Dan Goldin said at a press conference December 7. "We are all absolutely ecstatic that our tremendously ambitious, first-ever penetration of an outer planet atmosphere has been so wonderfully successful," Bill O'Neil, Galileo project manager, said a few days later.

Interest in the mission from Internet users was very high. According to JPL's Ron Baalke, the Galileo home page at JPL,

<http://www.jpl.nasa.gov/galileo> was accessed 2.1 million times between

December 1 and 11, with the peak on December 9. Even with an alternate site, reaching the home page became difficult during peak times during and after Galileo's arrival.

Federal Furlough Cancels Galileo Press Conference

The Galileo spacecraft has overcome a number of serious problems, including a broken high-gain antenna and balky tape recorder. However, one problem exists that NASA's scientists and engineers cannot overcome: the partial federal government shutdown. The furlough of NASA public relations employees forced officials to cancel a December 19 press conference where scientists were to provide the results from a "first look" at the data from the Galileo probe.

HST Observes New Black Hole

American and Dutch astronomers using the Hubble Space Telescope have found a new black hole, the third one confirmed by the 5-year-old telescope.

The astronomers, Laura Ferrarese and Holland Ford from Johns Hopkins University and Walter Jaffe of Leiden University, found the black hole in the galaxy NGC 4261, 100 million light years from the Earth in the constellation Virgo.

They discovered the black hole by measuring the speed of gas swirling in the center of the galaxy. Those measurements led to a mass of 1.2 billion solar masses for an object no larger than the solar system, making it a likely candidate for a black hole.

The astronomers, though, were puzzled by the location of the black hole, some 20 light years from the center of the galaxy instead of at the exact center, as expected. They were



unable to find a way to move the black hole from the center, and suggest it may be self propelled, using jets of hot gas in the vicinity of the back hole.

One Small Step for Litigation:

Hallmark Cards announced Friday that it had settled a lawsuit with Apollo 11 astronaut Neil Armstrong over the use of his likeness in a Christmas ornament last year. Armstrong had claimed that his name and likeness was used without his permission on the ornament, which celebrated the 25th anniversary of the Apollo 11 landing. The size of the settlement was undisclosed but said by one source to be "substantial." Armstrong plans to donate the settlement from the Kansas City-based company, minus legal fees, to Purdue University, his alma mater.

XTE Finally Launched

After several months of delays due to technical problems and poor weather, a Delta rocket launched NASA's X-Ray Timing Explorer (XTE) spacecraft Saturday, December 30.

The rocket took off from the Kennedy Space Center at 8:48am EST December 30. The rocket successfully delivered the rocket into its proper orbit 580 km (360 mi) above the planet. All systems are reported to be working. The spacecraft, which carries experiments from NASA's Goddard Space Flight Center as well as the University of California San Diego and the Massachusetts Institute of Technology, will spend several years studying how cosmic x-ray sources vary over time.

Mir Watch by Tom Dean

Satellite predictions for the next 30 days for Mir (the brightest of man-made satellites). The satellite elements on which the predictions are based are updated weekly but Mir does "move" a

lot on it's own, hence predictions may not be as accurate the farther into the future they are. Over the next 30 days there are 50 visible passes, but most are marginal. The following table is the best of the passes:

Date(EST)	Time(EST)	Azimuth			Peak Elev
		Peak	Ris	Pk Set	
Tue 16Jan96	06:39	228	141	61	57.7*
Thu 18Jan96	06:24	242	319	59	74.3*
Fri 19Jan96	05:29	228	146	61	58.3*
Sat 20Jan96	06:09	255	339	58	43.5*
Sun 21Jan96	05:14	242	342	59	73.7*
Mon 22Jan96	04:18	228	146	61	58.8*
Tue 23Jan96	04:59	255	340	58	43.2*
Wed 24Jan96	04:03	242	322	59	73.4*
Sun 28Jan96	06:47	302	22	104	42.3*
	06:32	301	41	117	71.4*
Wed 31Jan96	05:37	302	23	104	42.4*
Thu 01Feb96	06:17	299	216	131	60.7*
Fri 02Feb96	05:22	301	26	117	72.0*
Sat 03Feb96	04:26	302	20	104	42.5*
Sun 04Feb96	05:07	299	221	131	60.3*
Mon 05Feb96	04:11	301	21	117	72.0*

Quotes on the Nature of the Universe:

Rich Cook: Programming today is a race between software engineers striving to build bigger and better idiot-proof programs, and the Universe trying to produce bigger and better idiots. So far, the Universe is winning."

Cover Story

The red glow in the center of each disk is a young, newly formed star, roughly one million years old (compared to the 4.5 billion year age of the Sun). The stars range in mass from 30% to 150% of the mass of our own Sun. As they evolve, the disks may go on to form planetary systems like our own. While only a handful of these dark silhouette disks have been discovered so far, they seem to belong to a much larger family of similar objects, and current indications are that protoplanetary disks are common in the Orion nebula.

Mark McCaughrean of the Max-Planck-Institute for Astronomy, Heidelberg, Germany, and his collaborator C. Robert O'Dell from Rice University, Houston, Texas,

spotted the new disks in large-scale survey images of the Orion nebula that O'Dell had taken with Hubble between January 1994 and March 1995. A detailed study of the disk images has been submitted for publication to the *Astronomical Journal*.

Each image is 167 billion miles, or 257 billion kilometers across (30 times the diameter of our own solar system). The disks range in size from two to eight times the diameter of our solar system.

Each picture is a composite of three images taken with Hubble's Wide Field and Planetary Camera 2, through narrow-band filters which admit the light of emission lines of ionized oxygen (represented here by blue), hydrogen (green), and nitrogen (red). The hot gas of the background Orion nebula emits strongly at each of these wavelengths, providing a strong backdrop for the disks to be silhouetted against. In each case, the central star is also clearly visible.

Credit: Mark McCaughrean

Quotes on the Nature of the Universe:

Douglas Adams: "There is a theory which states that if ever anybody discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened."

The Electronic Age

The Kingston Centre maintains an email address which will allow you to send messages to all members of the executive who have email. This address is:

rascexec@cliff.path.queensu.ca

We also have a one way mailing list



which allows the Executive to send out announcements to the General Membership. Everyone listing an email address on their membership application form have already been added to this list, called rascmem-l and should have received via email instructions on how to use or disconnect themselves from the list. If you are not a member of the list and wish to be (and have a valid email address), send a message to: listserv@cliff.path.queensu.ca And in the message body put: *help* for more detailed instructions, or contact_kell@cliff.path.queensu.ca

FidoNet BBSs Across Canada

The primary reason for starting this alternative communications network was the perceived lack of interaction between Centres of the RASC. With this network in place, members are able to communication *directly* to other members across Canada via electronic mail. At present mail is exchanged with other Centres once each day.

BBS Name, Sysop, Phone#, Modem Speeds & types, Network Node#

British Columbia

o SpaceBase Hugh Gregory
604-875-6259 14400 FidoNet
1:153/719 Vancouver

Alberta

o NAPCUG Peter Mosonyi
403-489-4685 FidoNet 1:342/802

Edmonton

o Rascal Sid Lee 403-686-2550 14400
HST/DS FidoNet 1:134/122 **Calgary**
o Observatory West Mark Kaye
403-934-2179 19200 bps 8N1 FidoNet
1:134/131 Calgary
o Slide Rule Jason Nishiyama
403-284-2838 FidoNet 1:134/157
Calgary

Saskatchewan

o Skywatch Ross Parker 306-569-0581
Fidonet 1:140/118 Regina

Ontario

o Observatory Joseph O'Neil
519-679-5747 FidoNet 1:2401/132
London
o Gasoline Alley Clyde Labonte
519-948-8719 14400 HST/DS FidoNet
1:246/43 Windsor
o Stained Glass Loralie Freeman
416-368-9955 14400 V32b FidoNet
1:250/228 Toronto
o Stargazer Al Paglieri 905-832-3962
FidoNet 1:250/454 Toronto
o StarStream Kevin Kell 613-546-6403
9600-28.8kbps 8N1V.34 FidoNet
1:249/112 Kingston
o Moonlight Cascade Kim Hay
613-353-7369 1200-28.8kbps
8N1V.FC FidoNet 1:249/133 Kingston

Quebec

o Ecole Virtuelle Robert Brault
514-661-1625 2400- FidoNet
1:167/130 Montreal
o Cap sur l'Univers Danis Durand
514-256-2147 FidoNet 1:167/818
Montreal
o Net240 NEC Andre Morin
418-648-9590 FidoNet 1:240/99
Quebec City

The information above is believed to be correct as of 1996 Jan 08. Once you have called one of the above systems, leave a note to the System Operator letting them know that you are a RASC member.

Space Calendar

Last Updated Tuesday, January 09, 1996 at 05:31 PM PST

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.

This Month in Space History - January 1996

* Jan 01 - 195th Anniversary (1801), Piazzi's Discovery of the First Asteroid

(Ceres)

- * Jan 03 - Galileo, Probe Data Playback Resumes
- * Jan 03 - Quadrantids Meteor Shower
- * Jan 03 - Earth at Perihelion (91,400,005 miles from Sun)
- * Jan 11 - STS-72, Endeavour, Space Flyer Unit Retrieval
- * Jan 14-18 - 187th Meeting of the American Astronomical Society, San Antonio, Texas
- * Jan 17 - Comet Churyumov-Gerasimenko Perihelion
- * Jan 18 - Asteroid 1992 QN Near-Earth Flyby (0.1588 AU)
- * Jan 20 - Asteroid Irene at Opposition
- * Jan 22 - Moon Near Venus & Saturn
- * Jan 24 - Asteroid Aten Near-Earth Flyby (0.2234 AU)
- * Jan 24 - 10th Anniversary (1986), Voyager 2, Uranus Flyby
- * Jan 25 - Joseph Lagrange's 260th Birthday (1736)
- * Jan 28 - 10th Anniversary (1986), Space Shuttle Challenger Explosion
- * Jan 31 - Asteroid Eleonora at Opposition

February 1996

- * Feb 02 - Venus Passes 1.3 Degrees Past Saturn
- * Feb 03 - Comet Schwassmann-Wachmann 1, Closest Approach to Earth (5.2286 AU)
- * Feb 04 - Clyde Tombaugh's 90th Birthday (1906)
- * Feb 06 - Comet Honda-Mrkos-Pajdusakova Near-Earth Flyby (0.1702 AU)
- * Feb 11 - Saturn's Rings Disappear, 3rd Ring Plane Crossing
- * Feb 11 - Mercury At Its Greatest Western Elongation
- * Feb 14 - Chiron, Perihelion
- * Feb 18 - Asteroid Herculina at Opposition
- * Feb 20 - Mars at Perihelion
- * Feb 22 - STS-75, Columbia, Tethered Satellite System (TSS-1R)
- * Feb 23 - NEAR Delta 2 Launch (Asteroid Eros Orbiter).
- * Feb 29 - Asteroid Nysa at Opposition

March 1996

- * Mar 04 - 215th Anniversary (1781), Herschel's Discovery of Uranus
- * Mar 13 - Galileo, Probe Data Playback Completed



Financial Report

Submitted by Kim Hay

YEAR END REPORT				
REVENUE	1995	1994	TOTAL ASSESTS	
Membership fees	??	\$2,553.75	INVENTORY	COST
Life Members Grants	??	\$115.20	1995 Calendars	\$36.00
Donations	??	\$216.95	Toques	\$30.00
Educational Activites	??	\$0.00	Solar Filters	\$14.00
Interest	??	\$30.15	JR Bogs	\$47.50
US Exchange	??		Tneck Sweater	\$20.00
Advertising	??		TOTAL	\$147.50
Travel Grants (GA)	??	\$363.29		
Sales-old Jr.Bogs	??		MONEY IN BANK	
Sales Jr BOGS	??	\$85.00	ACCOUNT AS OF	
Sales of Obs Hndbks	??	\$102.00	SEPT 30,1995	\$3,452.65
Sales of Calendars	??	\$127.45		
Sales of Promo Items	??		TOTAL ASSESTS	\$3,600.15
Sky & Tel mag.programs	??	\$83.58	AS OF SEPT 30,1995	
Astronomy mag. programs	??			
Miscellaneous	??	\$802.75		
Total Revenue	??	\$4,480.12		
Expenditures				
Fees remitted to National	??	\$1,188.00		
Library	??	\$340.44		
Newsletter Expenses	??	\$413.43		
Photocopying	??			
Postage	??	\$138.81		
Publicity	??	\$233.86		
Travel Grants (GA)	??	\$363.29		
Rental of Equipment	??	\$212.92		
Office Expenses/Supplies	??	\$306.37		
Educational Activities	??	\$178.92		
Awards/Donations	??	\$118.94		
Loans to GA Fund	??			
Re-inbursement Sky & Tel	??	\$68.05		
Re-inbursement Astronomy	??			
Purchase of Obs.Hndbks	??	\$60.99		
Purchase of Calendars	??	\$104.35		
Purchase of Jr.Bogs	??			
Service Charges (Bank)	??	\$15.00		
Phone Calls	??			
Total Expenditures	??	\$3,743.37		
Net Profit (Loss)	??	\$736.75		
PREPARED BY Kim Hay, Treasurer Oct 12, 1995				