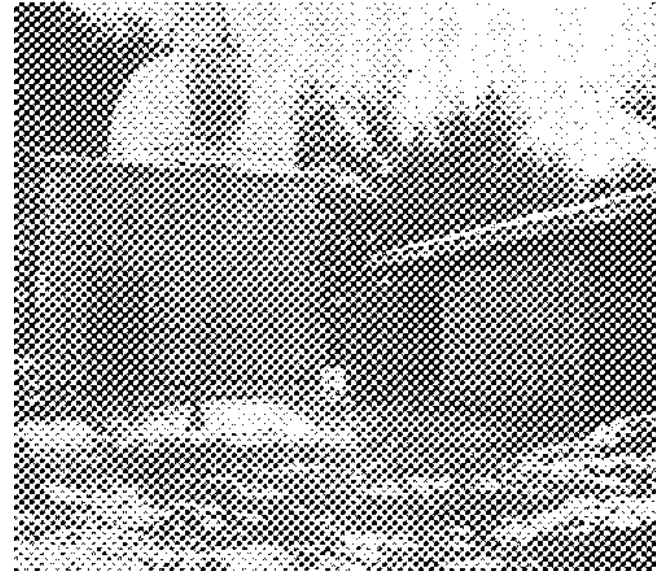


PRINTED MATTER

ORBIT  
Hamilton Centre RASC  
BOX 1223  
Waterdown, ON  
L0R 2H0

To:



**Hamilton Centre Summer Schedule**

The Hamilton Centre's Leslie V. Powis Observatory will be the hub of activity over the next few weeks. Come on out and enjoy the festivities.

We are Ontario's Best  
Independently Operated Observatory.

The Official Publication of the Hamilton Centre of

Cover Image - Hamilton Centre Observatory as it looked in a recent winter

**P** A special event is scheduled for June 8th, our Big Barbeque Building Bash, where you get to bash the building, and belch at the barby.

Come on out! The Price of Admission is to bring something of use to the well-being of the facility. For example, tools you don't need, nails, electrical supplies, paintbrushes. Also, bring along picnic stuff, and join in the barbeque. If you are aware of things that need to be worked on at the Observatory, come on out Saturday, June 8, 1996. Bring your toolbox, your paintbrush, your rake, your gas-powered weed-eater, some window cleaner, and as many friends as you've got. Pack a picnic, and lend a hand. We will be working on odd jobs all day, and then having a BBQ with our friends. If you aren't up to handyman status, come out - there's lots to do, and a lot of fun scheduled. We may even have a camp out overnight!

A lot of change is happening at both the local and National levels, and Roger and Ray highlight a lot of that in this month's issue. We also have a whole series of events happening both through the centre and with our friendly neighbours at HAA, and the other Centres. Please make the notes on your calendar, and plan to attend our functions, and those at neighbouring groups. I do not know if we will be publishing an Orbit this summer, so do send in any articles or ideas, and I will endeavour to deliver a summer issue. Until next time, clear skies!



Colin A. Haig

## CONTENTS: THIS MONTH

- EDITORIAL
- FROM THE KEYBOARD OF THE PRESIDENT
- RASC HAMILTON CENTRE MAY MEETING
- NEIGHBOURING INVITATIONS
- ASTEROID ICARUS
- RASC HAMILTON CENTRE MAY BOARD MEETING
- WHY IS IT DARK AT NIGHT?
- RETURN OF COMET KOPFF
- MOVIE NIGHT AT THE HAMILTON CENTRE OBSERVATORY
- NEW ROOF ON POWIS OBSERVATORY
- GLENLEA SUB-SERVATORY AT WINNIPEG CENTRE

## MEMBERSHIP APPLICATION

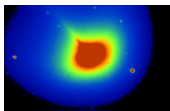
Application for Membership in the HAMILTON CENTRE of the ROYAL ASTRONOMICAL SOCIETY OF CANADA. Membership Year officially concludes September 30. We welcome people of all ages, skills, and interests in things Astronomical. Please make your cheque payable to: "RASC Hamilton Centre" and mail to the Treasurer c/o the address on the reverse. Associate membership is for those in other Astronomy Clubs. Please state the club. Full members receive The Observer's Handbook (approximately \$20 value). Free 3 month Trial available - send no money!

### MEMBERSHIP INFORMATION

NAME:	
ADDRESS (1/2):	
ADDRESS (2/2):	
CITY:	
POSTAL CODE:	
DAY PHONE:	(   )
EVE PHONE:	(   )
E-MAIL:	

### PAYMENT OPTIONS

ADULT	@ \$49.00	
ASSOCIATE	@ \$30.00	
YOUTH (under 21)	@ \$35.50	
VOLUNTARY DONATION:		
TOTAL:		
Circle one:	NEW Member	RENEWAL



## HAMILTON CENTRE INFO

- ◆ To get to the observatory:
- ◆ From Hamilton:
- ◆ Hwy 6 North from Hamilton to Concession 7 East.
- ◆ Proceed eastbound on 7E, cross Centre Rd.
- ◆ Continue on 7E, keep going past the rail tracks
- ◆ proceed nearly to the end.
- ◆ Our gate is on the south side on the last lot.

NAME	Phone	Email Address
Observatory	689-0266	<a href="http://ad-here.com/RASC/">http://ad-here.com/RASC/</a>
Astronomy emailing list	subscribe	<a href="mailto:bigbang@ad-here.com">bigbang@ad-here.com</a>
President: Roger Hill	878-5185	<a href="mailto:roger@ad-here.com">roger@ad-here.com</a> Fax: (905)878-3974
Secretary: Dave Coulson	634-4436	
Treasurer: John Kezys	648-5542	<a href="mailto:kezys@operatns.mohawkc.on.ca">kezys@operatns.mohawkc.on.ca</a>
Education: Carmen Martino	643-7283	
Observing: Rich Petrone	547-2589	<a href="mailto:petrone@physun.physics.mcmaster.ca">petrone@physun.physics.mcmaster.ca</a>
Curator: Les Nagy	387-0690	<a href="mailto:lnagy@netaccess.on.ca">lnagy@netaccess.on.ca</a>
National: Mike Jefferson	648-8919	
General: Charles Baetsen	524-0148	<a href="mailto:charlesb@abelcomputers.com">charlesb@abelcomputers.com</a>
Librarian/Recorder: Ray Badgerow	692-4184	<a href="mailto:s296489@liberty.mohawkc.on.ca">s296489@liberty.mohawkc.on.ca</a>
Editor: Colin Haig	577-5349	<a href="mailto:chaig@radgrp.com">chaig@radgrp.com</a>



## FROM THE KEYBOARD OF THE PRESIDENT

**A**nother interesting month has passed by. Not, however for all of the right reasons, just some of them. We have had a good deal of activity at the Observatory, and although more was imminent, some has had to be canceled. There has been a great deal of discussion on the RASCLIST about all sorts of topics, from the name of the new Journal, to the vice presidential debate, to reports of the Winnipeg subservatory (they were flooded).

Lets look at Hamilton, first, though. I don't know about you, but our May speaker was one of the best speakers I can remember. If you missed him, try to catch his act somewhere else. One of the visitors we had from the Toronto Centre was impressed enough to write on the RASCLIST that other Centres would do well to book him. Let me tell you what happened. Normally, for me, booking speakers is a pleasant task. Sometimes, though, it is very difficult to find one. The month of May, in particular, seems to be a weak spot. The problem is that the academic year is over, and numerous Doctors and Professors are busily arranging for their Grad students to gather the data that will turn into theses and publishings. They are also busily planning for their own excursions to major Observatories. In short, May is one hectic month for them.

Consequently, getting a good speaker for May is tough. This year, I turned to a "friend of a friend" here in Milton who works for Spar Aerospace. He said he would be delighted. I knew that all I would have to do is wind him up and watch him go. Four days before the May meeting, I got a phone call from him saying that his brother in England had died, and that he would not be able to speak to us. If there was ever a sentence that the arranger of speakers never wants to hear it is that one. Dave was a very decent fellow, though, and mentioned that I might give a certain Don Sharkey a call. I did, and his military manner was evident, even through a phone line. He asked the usual questions, and said he would see us on Thursday. Pheww! Thursday evening, I got home from work, and there was a message from Don. I turned pale, but he quickly assured me that he was still going to attend, but could he bring his wife and daughter along? As my heart started beating again, I told him that they were more than welcome. The rest, as they say, is history. He is a most engaging speaker, who truly loves what he does. Who knows, perhaps we will ask him back next year. The visit by a group of Toronto Centre members was great. Although I have



met a few of these fine folk before (Gord Skerrat and Randy Attwood), and actually seconded one motion made by Randy at the last National Council meeting, it was a pleasure to meet and talk with them. Actually, it was nice to find that Glenn Norman is as erudite in public as he is on the Internet.

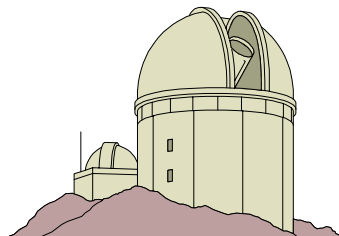


Anyway, they were most surprised (and actually interested) in the recent history of the Hamilton Centre, and they wished us well. Now they know how important the proposed changes are to the future of the Hamilton Centre. There was a great discussion about the RASC, and the Hamilton Centre in particular, at Mellows afterwards. Every one of them will be showing up at the Observatory in the future.

And now we get to the Observatory. A number of items were discussed at the last Board meeting that needed immediate attention. One was the dome shutter. Frequent users of the dome know how hazardous it was getting the dome was opened, you just never knew if the rot had spread so far, that the next time would be the last. I am most pleased to be able to report that this has now been fixed. This was due to donations by John Kezys, Colin Haig and Bob Botts. The actual work was done by Richard Petrone and Bob Botts. The roof leak was another place requiring immediate action, and again, donations were made by Colin Haig and Bob Botts, with the work being performed by Colin Haig, Bert Rhebergen and Bob Botts. There is still a lot of work that needs to be done, and a work party will be taking place this month (see elsewhere in Orbit). As of May 25, the grass was cut by Bert the first time, and by Bert and Bob the second time. Needless to say, this is something that needs doing on an ongoing basis, and volunteers are always required. If you feel that you have not been able to contribute to the Centre because you know nothing about collimating telescopes, or computer systems, or CCD cameras, here is one area where very little knowledge or ability is required, but where a contribution of a little time can be vital. In the meantime, the above mentioned gentlemen deserve our thanks.

That is the good news. There have been rumblings of discontent around the Centre, some of which have to do with the CCD camera and its users. I have heard from both people complaining about how the CCD camera is just left alone, hanging of the back of the C-8, taking it out of service for visual observers, and people wanting to take piggyback photos. I have also listened to the CCD group, saying that it takes so long to get the camera hooked up, connected, focused, and whatnot, that putting the camera back on to the C-8 can lead to an hour or more of wasted time. So, what to do. Since I am basically a problem solver, here's what will happen:

- 1) I will lend the Centre my C-8, wedge and tripod for the summer (except for Starfest).
- 2) The Centres' C-8 will be put on my wedge and tripod, and moved to the



## WHAT ' S HAPPENING !

**Monthly Meetings** are held by the Hamilton Centre at McMaster University Medical Centre Ewart Angus 1A6 8pm. Next meeting is:

**Thurs. Sept 5, 1996-** 8pm: Hamilton Centre regular meeting. Summer Vacation fun! New members always welcome! Write this on your calendar!

**June 5 - 7:30 pm:** Toronto Centre Member's Night at the Ontario Science Centre. All kinds of neat stuff .Slides and stories overseen by moderator, Guy Nasson. For more information, phone the Toronto Centre Info line at 416-724-STAR or WWW users can check out the updated page at: <http://durham.durhamc.on.ca/ras/centre1.html>

**June 8 - Big BBQ Building Bash -** at observatory (Rain: 22nd)

**June 15 - 7:00 pm:** HAA Telescope Colimation Workshop at Binbrook Conservation Area. For more information contact Les Nagy ([lnagy@netaccess.on.ca](mailto:lnagy@netaccess.on.ca)) or Charles Baetsen ([charlesb@abelcomputers.com](mailto:charlesb@abelcomputers.com) or 524-0148)

**June 20 - 8pm:** Hamilton Centre Board Meeting at the Observatory. Help plan the future of your Centre! All members always welcome.

**June 21-23:** Third annual HAA Starparty at York Soaring Club in Arthur. Contact Ann Tekatch ([a7503934@mcmail.cis](mailto:a7503934@mcmail.cis). [mcmaster.ca](mailto:mcmaster.ca) or 527-9153) for more information. All are welcome to attend!

**June 23 - 8pm:** Movie Night at the Hamilton Centre Observatory For \$3 in support of the Centre, come and spend an enjoyable evening. Bring Snacks. Star Trek IV: The Voyage Home (1986) and Classic episodes from The Twilight Zone are featured. For further information and directions contact John Kezys at 648-5542 or [kezysj@operatns.mohawkc.on.ca](mailto:kezysj@operatns.mohawkc.on.ca)

**July 13** CCD Workshop - learn to use the centre's CCD camera. Contact Colin Haig or John Kezys. **GOOD CLEAN**

June 30	19 21.7	-17 55'	168	7.0
July 10	19 22.9	-19 13'	177	7.0
July 20	19 23.9	-20 37'	172	7.0
July 30	19 26.1	-21 55'	163	7.2
Aug. 9	19 30.4	-23 00'	154	7.4
Aug. 19	19 37.5	-23 45'	146	7.6
Aug. 29	19 47.3	-24 09'	138	7.9
Sep. 8	19 59.4	-24 11'	131	8.3
Sep. 18	20 13.5	-23 54'	125	8.6
Sep. 28	20 29.1	-23 19'	119	8.9

This should make for a great target for visual and CCD observing. And like all comets, it will be most interesting to watch as it gets closer to the sun.



## PHENOMENA PAGE

**T**he Phenomena Page is a place for tidbits of information that we just can't do without.

**Trial Membership Program:** The Hamilton Centre has started the Trial Membership program, effective immediately! New members will receive three (3) months of ORBIT, our leading newsletter, three months of attendance at all of our functions, and are welcome to come out to the observatory at any time, under the supervision and guidance of established club members. We encourage them to join at the end of their 3 month trial.

### **FOR SALE:**

Extensive but inexpensive 35mm astrophotography camera outfit. Works Great!

CAMERA: Practica L. 35mm Manual SLR, with mirror lift added.

LENSES: f1 35mm f/3.5, 50mm f/2.8, 135mm f/2.8, 200mm f/2.8

ACCESSORIES: 2xteleconverter for above lenses

1.25 and 2 "prime focus adaptors for telescope

macro rings for 3inch nature closeups

Thousand Oaks solar filter for 200mm lens

Air bulb shutter release

Extra lens caps, etc.

PRICE: \$225 (firm)

CONTACT: call Eric at 905-383-7875

south-east corner of the Chilton building.

- 3) My C-8 will be put on the post, and since it has the piggyback mount, can be used for both visual and photographic work.

If we could get a donation of a couple of office screens, we can "wall off" the CCDers from the visualites, and peace can reign once more. In time, when the Ford 'scope is revitalized, I can take back my C-8, and the CCD can be put on the 'scope that is best for it. So, when you see an old orange C-8 at the site, with a 1991 eclipse trip decal on it, you now know where it came from!

Also at the last Board meeting, our most capable treasurer, John Kezys, passed around a forecast of the state of the finances of the Hamilton Centre. Although it was a "worst-case-scenario", it was eye opening at the least. As a result, we have had to cancel the planned removal of trees because we could not afford the money that would be required to get the detritus chipped. You see, we were talking about the branches from possibly more than a hundred trees. One member had said that we could use his chipper, but unless this is a big industrial sized machine, the amount of stuff to be fed through would burn it out in a hurry. Secondly, I suspect that the job would take all summer. Anyway, the result is that we do not have the money for the chipping, and as a consequence, the trees will remain standing for now.

Another fall out from the budget forecast was that we will have to raise money. It was mentioned that a carwash can raise hundreds of dollars, so we will be having one or two during the summer. If you can't wash a car, at least come out and we will bring a scope or two to show people the Sun.

This leads into stuff on the National scene. It is our fervent hope that the publication revitalization will give our current members a better deal for their money, and give us something that we can show, with pride, to potential new members. As far as finding new members, the SkyNews initiative will help there. There are 20,000 subscribers to SkyNews across Canada, and quite a few who have no idea that the RASC exists. No doubt, there a few of those in the Hamilton area. By offering SkyNews with membership, we will be offering two publications: one that caters to the more advanced amateur, and another that is more general. By taking advantage of the offer of free advertising in SkyNews, the RASC will be able to put its case directly to those who have an interest in astronomy. I am hoping that once both of these have taken place, that our membership will increase, and our finances will once again be healthy.

It is what to do until then that concerns me, however. I have had a couple of conversations with Peter Ceravolo, one time Hamilton Centre member, current 2nd Vice President of the RASC, and candidate for the position of 1st VP for the next RASC National Council. I mentioned John's report to him, and he stated that this sort of thing is one of the things that the National organization exists for. What he needs is a formal report, that would be discussed at the GA in Edmonton. Since, at the moment, we have no plans for any Board member to represent us at the GA the report would have to be a



good one! Peter offered to meet with us this past weekend, but it could not be arranged in time. He even wondered if having himself, Doug George (also based in Ottawa) and Pat Kelly (from Halifax) attend this evenings meeting would be useful? What it did impress upon me is that, just as the Hamilton Centre is under new management, so is National Office. Needless to say, it was most heartening to find that there are people who are not only aware of the Hamilton Centre, but are actually concerned with what happens here. This is not an impression we have ever had before.

So, this was discussed a little with the Internet Board members. I got some feedback from a couple of Board members, which requested editing before forwarding on to others. Since this is the case, I will talk about it at tonight's meeting. What I will say is that there are some innovative people on our Board, and a few more are required.

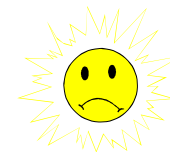
Which brings me to my final point. The Hamilton Centre needs more Board members. I will be stepping down at the end of this membership year, and I suspect that I will not be the only one. This means that we will see a good deal of turnover in the Board. I urge you, whoever you are, to consider sitting on the Board. You don't have to know about the history of the Hamilton Centre, you don't have to know much about astronomy (we have done some astronomy after Board meetings, though), but what we do need is some fresh blood. Last year, it was my pleasure to have on the Board a group of people who had never been on it before. It was tremendous! Just getting a fresh viewpoint meant a world of difference. Everyone brought a different perspective. I would really like the same thing to happen this year. Whoever the new President is, she or he will have a very different task ahead: that of trying to grow the Centre, not merely keep it going. Whoever it is will need good help, and I know that it exists in the Centre, just from talking to people. All it takes is an extra evening or two every month. If you find that the Hamilton Centre is worth it, no matter what your background, or skill set, you are needed. If you want to know more, you can talk to me, e-mail me, or phone me. There is enough to go around. Who knows, with Hale-Bopp on its way, we could have a banner year in the Hamilton Centre. You might even get on the front page of the Hamilton Spectator!

Just one final thought, the September meeting is usually a Members night, and this year is no exception. Bring your slides from your summer vacation: particularly those star trails you took. Show up with pictures of Starfest, bring in your moonshots, show us your new 'scope, and tell us about your new infatuation with globular clusters.

Anyway, have a fine summer (assuming it ever arrives), and see you at the Observatory!  
Roger Hill

email: roger@ad-here.com

surface. To create a bright night sky there is a need for ten billion stars for every star now shining. Since stars do not release their energy at one time then more realistically a bright sky requires at least 10 trillion stars for everyone shining. Is this the theory that explains the night time paradox?



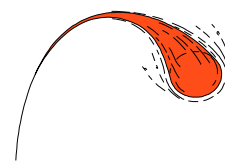
#### Note

From spherical trigonometry the sky has an angular area of  $4\pi$  square radians. A radian equals  $180/\pi = 57.3$  degrees. The whole sky is covered with  $4 \times 180^2/\pi = 41,253$  square degrees. The Sun covers a little more than 0.22 square degrees of the sky. Thus it would require 180,000 Suns to cover our sky.

The source for most of this article:

Harrison, Edward, *Darkness at Night*; Harvard Press, 1987.

John Kezys, kezysj@operatns.mohawkc.on.ca



## RETURN OF COMET KOPFF

*By Ray Badgerow*

This year marks the return of the periodic comet 22P/Kopff to the inner solar system. Discovered by August Kopff on August 22, 1906 at Heidelberg, this comet is making its best return this century. The comet is an active and intrinsically bright which does not quite reach naked eye visibility due to its perihelion point being a little beyond the orbit of Mars. The orbit is stable, and underwent changes in its orientation, but not period in 1951. This year perihelion is July 2, with opposition and closest approach (0.62 au) coming 9 days later. On June 11, 22P/Kopff will be 3 degrees from Comet Hale-Bopp in the evening sky. This comet is known to undergo small outbursts in brightness as it approaches the sun, and will be an easy binocular object as it was in 1983.

Ephemeris for 22P/Kopff				
Date	RA(h,m)	Dec(D,M)	Elong.	Mag.
May 31	19 06.4	-15 49'	143	7.4
June 10	19 14.1	-16 10'	151	7.2
June 20	19 19.1	-16 52'	159	7.1



## WHY IS IT DARK AT NIGHT ?

---

Why is it Dark at Night?

Think about it. If space is endless and it contains an infinite number of stars then any line of sight will eventually lead to the surface of a star. Thus the whole sky should glare with intense starlight. Since our Sun is an average star then every point of our sky would blaze as our sun. Night or day our sky should be 180,000 times brighter than our day sky ( see note below ). This amount of energy reaching the earth would blow away our atmosphere and boil away the oceans.

The principle of infinite space and cosmic uniformity has been inherited from the times of the ancient Greeks. It is said that Alexander the Great wept upon contemplating the vastness of the universe and the worlds to be conquered. Alexander said "Do you not think it a matter worthy of lamentation that when there is such a vast multitude of them, we have not yet conquered one?". The unbounded nature of the universe was a constant theme of discussion. Archytas of Tarentum posed the riddle: "What happens when a spear is thrown across the edge of the universe? Does it rebound or vanish from this world?". It was commonly accepted that our star filled cosmos was surrounded by a starless extra cosmic void extending into infinity.

Over the centuries there have been a variety of theories to explain the paradox of a dark night sky. Fournier d'Albe proposed the idea that dark space exists between stars since stars are arranged in rows and thus they occlude one another. Thomas Digges simply claimed that distant stars are too feeble to be detected by the eye. According to Lord Kelvin the universe has a finite age thus a line of sight can pass into distant regions 10 billion light years away where stars have not been observed to have been formed. Space is filled with light absorbing matter is an explanation proposed by Loys de Cheseaux. Due to the expansion of the universe, Hermann Bondi states that the rays of light from distant stars are too red shifted to be visible.

A recent explanation by Harrison is based on the fact that there is insufficient matter in the universe to support a bright night sky. Astronomers estimate from the distribution of galaxies that the average amount of matter in the universe is one hydrogen atom per cubic metre. If this hydrogen atom is converted into thermal energy then the temperature would be 20 degrees above absolute zero. This is far below the 6,000 degrees Kelvin at the Sun's

voice: (905)878-5185

fax: (905)878-3974



## RASC HAMILTON CENTRE MAY MEETING

---

*by Ray Badgerow*

Minutes of May 2, 1996 General Meeting Rm 1A6 McMaster University. Roger opened the meeting at 8:07 pm. We have a well packed meeting tonight. We are saying farewell to Comet Hyakutake, the best one for a long time. The Niagara Centre banquet last weekend was excellent. Terence Dickenson showed some spectacular pictures, and the food was great. There is a National election for 1st VP, and one candidate Randy Attwood is here tonight. Colin reminded us of Dr. Chou's talk and showed us a funny cartoon based on him. John has brochures and applications for any new members present. Bob Botts reminded us of Rob Dicks invitation to his observatory on May 10th weekend. Ask Charles. Next month's speaker is Ivan Semeniuk. He promised us Hubble pictures last year, they finally arrived. June 8th is our work day, and BBQ at observatory. (June 22 rain day) BBQ open to all. The HAA star party is June 21/22 weekend. Take 5 minutes to pickup Orbit, check minutes then go to main speaker.

Colin showed us some comet images he was playing with on his computer. Dave motioned to accept the minutes, Bob seconded. All in favour. Roger presented Carmen with the Fawcley Award for his efforts to get the Saltfleet Observatory going. He gave an acceptance speech that detailed how he got to this point, and the present fund raising efforts. Participation House climbathon June 1, 8:30 am. All support welcome, come see Carmen at end of

meeting. There will also be an Astronomy course starting up in Sept.97 for Grade 11 students.

Our main speaker, Lt. Colonel Don Sharkey spoke about "Canada's Contribution to Space. "He handed out several "bootlegged" handouts of material for our members. Mr. Sharkey discussed his path to space, his version of history, and his work at Spar Aerospace. He discussed the Canadarm, Radarsat, Canadian Astronaut Program, and Space Station Alpha. This was followed by a Q & A session. Roger thanked Don for his talk, and presented him and his family with RASC T-shirts.

Next Board meeting 2 wks tonight @ observatory.

Randy Attwood of the Toronto Centre thanked Hamilton Center for letting his group attend our meeting, and invited us to come to their meeting.

Anne Tekatch: May 10- Mike Jefferson: "Space Travel Prior to Mercury" and Les Nagy "Collimating Telescopes".

May 25- next HAA Cosmology group.

Dave motioned to adjourn, Les seconded. The meeting ended at 10:25pm.



## NEIGHBOURING INVITATIONS



**F**riends at the HAA and the Toronto Centre have invited us to their upcoming meetings. For more information, phone the Toronto Centre Info line at 416-724-STAR or WWW users can check out the updated page at: <http://durham.durhamc.on.ca/ras/centre1.html>

The Hamilton Amateur Astronomers will be hosting an observing weekend at the York Soaring Association near Arthur, Ontario on June 21 & 22. Everyone is welcome to attend. The cost is a horrendous \$2. per night per whatever you call home for camping. There is NO hydro available to campers or for telescopes. There are showers and flush toilets. There are no snack bars or concession stands at the glider field. Observing from the runway at this glider airport on Friday and Saturday nights (weather permitting of course!). During the day we watch the planes, go for rides in the gliders (\$35.) or just hang out and tell lies about the NGC objects we've observed. It will be close to summer solstice and first quarter moon, but, hey, when was it last clear during new moon, anyway? Contact: Ann Tekatch [a7503934@mcmail.cis.mcmaster.ca](mailto:a7503934@mcmail.cis.mcmaster.ca)



## GLENLEA SUB-SERVATORY AT WINNIPEG CENTRE

May 24, 1996

The flood waters have abated, with a total of about a foot of water having entered our warm room. (Earlier reports of higher levels were fortunately incorrect.) I went out Thursday night for a damage report. The carpet is toast, as is the insulation and some of the interior panelling (some of which was plasterboard, and is now just plaster). We hope that the structure is still sturdy (this being its second flood), but won't know for certain until we look inside the walls. (This will disturb the worms and snails which have taken up temporary residence in there.)

On the bright side, we did see it coming, and the C-14, computer, and other important stuff was pulled out and is high and dry. We hope to have things operational again this month, but it depends on the amount of repairs required. We will take this opportunity to correct a few problems with the earlier warm room (like installing proper cabinets and some workspace / tables) as well.

Donations may be made to the "Winnipeg Centre - RASC" (River Astronomers Swimming Club).

Scott Young  
Winnipeg Centre

Join South-Western Ontario's Astronomy List! Discuss with friends and peers from all over! Send an email to:

[bigbang@ad-here.com](mailto:bigbang@ad-here.com)

Put the words:

subscribe bigbang

in the subject and the first line.

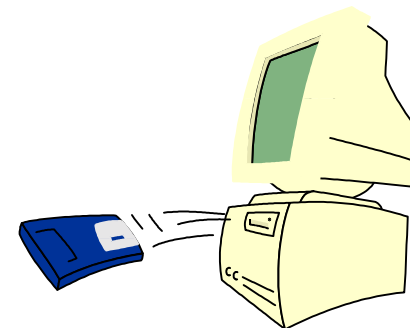
The RASC has a list, that you can reach by sending an email to:

[rasclist@astrotech.stmarys.ca](mailto:rasclist@astrotech.stmarys.ca)

Put the words:

subscribe rasclist

in the subject and first line.







## NEW ROOF ON POWIS OBSERVATORY

by Colin Haig

Bob Botts & Rich Petrone had put a new door on the bottom of the dome, a couple of weeks back, and that is when the roof problem was discovered. So, I went and purchased the necessary roof repair stuff, and will donate it to the cause. It was about \$35 for the roof paper, tar, nails, and some caulking.

Bob and I spent most of the day Saturday doing the roof. We used most of the roll roofing, and a bunch of shingles from the pile in the butler building. Also found more nails in butler bldg. Its surprising what all is in there, provided one has the patience to look through it.

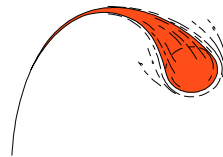
In the process, we replaced most of the roof (i.e. west side) of the upper part of the Marsh building. Also, Bob had cleared the drains previously, and I did the remaining one. The eaves are in good shape. That plastic eavestrough is really holding up well. I had no idea it was that good.

We found the wood on the dome at the base had rotted out in the North. So, I made as good a patch as I could, and Bob \*coated\* it with roof stuff. So, we figure its the end of many leaks. There are still a couple of problem areas, but we will have to check them out another time.

This is just one more example of stuff that needs to get done. Hopefully some other centre members can come out and help.

### CAMTECH PHOTOGRAPHIC Services Limited

588 Concession Street  
Hamilton, Ontario, L8V 1B1  
389-8545



## ASTEROID ICARUS

By Ray Badgerow

Here is an ephemeris for the Apollo asteroid 1566 Icarus, based upon my simulations with Dance of the Planets. Perihelion occurred May 1.6226, and opposition will occur on June 18th.

Happy hunting with the CCD.

I wouldn't mind using it on Comets Hale-Bopp and Kopff this summer.

Table 1: Where Have All the Good Comets Gone? April 1, 1996  
Comet RA Dec r(AU)-Sun

Date	RA(h,m)	Dec(D,M)	Distance to Sun(au)	Earth(au)	Mag
June 2	0h 27.1	22 57	0.934	0.173	16.4
June 3	0 14.2	21 48	0.950	0.161	16.3
June 4	23 59.7	20 24	0.965	0.150	15.9
June 5	23 43.2	18 42	0.980	0.139	15.5
June 6	23 24.5	16 36	0.995	0.129	15.1
June 7	23 03.5	14 04	1.010	0.120	14.7
June 8	22 39.9	11 01	1.024	0.113	14.4
June 9	22 14.0	07 27	1.039	0.107	14.0
June 10	21 45.9	03 26	1.053	0.103	13.7
June 11	21 16.4	-00 53	1.067	0.101	13.4
June 12	20 46.3	-05 15	1.080	0.101	13.2
June 13	20 16.7	-09 25	1.094	0.104	13.1
June 14	19 48.4	-13 09	1.107	0.109	13.0
June 15	19 22.2	-16 22	1.121	0.115	12.9
June 16	18 58.4	-19 00	1.134	0.124	12.9
June 17	18 37.3	-21 08	1.147	0.134	12.9
June 18	18 18.6	-22 50	1.159	0.144	12.9
June 19	18 02.2	-24 10	1.172	0.156	12.9
June 20	17 48.0	-25 14	1.184	0.168	13.1
June 21	17 35.5	-26 04	1.197	0.181	13.5
June 22	17 24.6	-26 45	1.209	0.195	13.8
June 23	17 15.0	-27 17	1.221	0.209	14.0
June 24	17 06.7	-27 43	1.233	0.223	14.3
June 25	16 59.3	-28 05	1.245	0.237	14.5
June 26	16 52.7	-28 22	1.256	0.252	14.7
June 27	16 47.0	-28 36	1.268	0.267	14.9
June 28	16 41.8	-28 49	1.279	0.282	15.0
June 29	16 37.3	-28 59	1.290	0.298	15.2
June 30	16 33.2	-29 07	1.301	0.313	15.4
July 1	16 29.5	-29 15	1.312	0.329	15.5

Enjoy!



## RASC HAMILTON CENTRE MAY BOARD MEETING

Minutes of May 16, 1996 Board Meeting at Les V. Powis Observatory

Present: Ray Badgerow, Roger Hill, Colin Haig, Richard Petrone, John Kezys, Mike Jefferson, Dave Coulson.

Guests: Bob Botts, Ev Butterworth.

Roger opened the meeting at 8:25 pm. Dave motioned to accept the minutes, Mike seconded.

President: Roger will be lending his C8 to the center for visual and photographic use until the Ford Scope is prepared. This will prevent any division within the center. There is a rumour of a radio antenna with strobe light going up several miles away. Has there been any publicity done for our last speaker Ivan Semeniuk? We may be getting more members from other centers at future meetings. Roger will also be setting up an outbound listserver to send copies of Orbit to paid subscribers.

1st VP: No report

National Rep: No report.

Treasurer: John gave us a copy of the quarterly financial statement. This was followed by numerous comments. Roger commented to the fact that the next President must make raising revenue their top priority.

Recorder: No report.

Secretary: No report.

Editor: Colin thanked people who sent in articles, and asked for more. He also showed us a flyer from Toronto Center's Astronomy Week and suggested

that we should do the same next year.

Observing Dir: No report, thought he had resigned.

Librarian: I put some more magazines (Astronomy) in magazine holders.

Maintenance: Absent

Curator: Absent

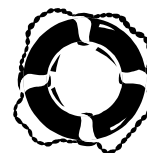
Public Ed: Absent.

Old Business: Bob Botts asked us if we should do the trees this year? It will cost \$500 to get done. Mark trees to be done. Colin commented that we cannot afford to do it this year. It was decided to leave the trees to next year. Bob also mentioned that the roof needs shingling, and the lower door on dome is rotten and needs replaced. Back wall of Chilton Building needs to be redone. We will get shingles and 3 helpers for the June 8th work day. In addition, Colin needs volunteers to help with phone cable.

New Business: July 18 Board Meeting will be in the shallow end of Roger's pool. (Weather permitting)

The next board meeting is June 20, at Observatory 8pm.

Dave motioned to adjourn, Colin seconded. The meeting ended at 10:43pm.



## MOVIE NIGHT AT THE HAMILTON CENTRE



Come One, Come All!

For a very nominal fee of \$3 (in support of the Hamilton Centre) come and spend an enjoyable evening. And you are allowed to bring in snacks.

### 1. Star Trek IV: The Voyage Home (1986)

A space probe appears over 23rd century earth, emanating strange sounds towards the planet, and apparently waiting for something. As time goes on, the probe starts to cause major storms on earth and threaten its destruction. James T. Kirk and crew are called upon once again to save mankind. They discover the strange sound is actually the call of the humpback whale - which has been hunted to extinction. They have only one choice - to attempt to time travel back into the 20th century, locate a whale, and bring it back to 23rd century earth to reply to the probe.

### 2. Added Feature: Classic episodes from The Twilight Zone

**KHAN SCOPE CENTRE**

**Ray Khan**

3243 Dufferin Street  
Toronto, Ontario  
Canada M6A 2T2

Tel: (416) 783-4140  
Fax: (416) 783-7697

Telescopes • Binoculars • Spotting Scope • Books • Maps • Software