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Winnicentrics

The Journal of the Winnipeg Centre of the Royal Astronomical Society of Canada

Observing the Perseids

A solitary journey under cloudy skies

by Ralph A. Croning

After attending the second half of the monthly meeting on August 12 and later enjoying a meal, a few brews and some wonderful company at Boston Pizza, I headed out to Glenlea to observe the Perseid meteor shower and to further enjoy the company of some of my fellow observers. All day the sky was partly cloudy but showed promise of clearing.

When I got to Glenlea the sky was quite overcast and that's when I realized that no one else was going to come. It only made sense. So I decided to stay awhile and enjoy the cool evening. There was a gentle breeze, the clouds seemed to want to thin out and there were no mosquitoes!! Then I saw a streak of light overhead followed a few seconds later by another. I smiled and thought....."maybe this won't be a wasted trip after all".

I came equipped; padded lounger, lots of warm clothes and light gloves. I unloaded all of this from the car and started to get ready for some meteor observing. I went into the warm room to sign in and made myself a steaming hot cup of hot chocolate. I took my beverage out to the pad where my lounger awaited me.

I positioned myself so my feet would face south, sat down, adjusted the back rest to a low position and lay back. This was absolute heaven. Except for the thrum of tires on blacktop and the whine of vehicle engines in the distance, Glenlea was quiet. During those brief moments when no man-made noise intruded I could hear crickets in the bushes, toads in a nearby pond and the rustle of tall grass around the pad.

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Deadline for the next issue is October 23, 2005

Friday September 9

Starting at 7 p.m. the Beginners' Session will be presented by Stephen Smyth, and following him will be Gail's "Constellation of the Month", an update on Light Pollution Education by Fred, and then the always popular "Picture of the Month" at which we introduce member speakers. After our short break for coffee and cookies, we will be treated to a guest speaker, Dr. Jason Fiege of the University of Manitoba. Dr. Fiege has been doing some really interesting, cutting-edge science and has agreed to share some of that with us. Then the post meeting get-together at Boston Pizza.

MEETINGS

Room 118, St. John's College
Beginners' Session 7:00
Regular Meeting 7:30

Friday October 8

At 7 p.m. Loyell Hull will present our Beginners' Session and then after the welcome and announcements, the first order of business is the election. This will not take a lot of time, but it will set your Council for the upcoming year. There are not a lot of vacancies to fill, but please, if you are asked, consider accepting a nomination. The nominating committee is the Past-President, so if you have nominations or would volunteer, please contact Gail. After the election, Mike will present his first regular "Lunar Observing Certificate" talk, followed by Lindsay's "Explore the Universe". Then we break for coffee and the chance to talk to our friends, and will reconvene to see Ken Metcalfe show and tell about one of the latest telescope designs called "Off Axis Newtonian", and he will share some of his experience spreading the word about astronomy and the R.A.S.C. in beautiful downtown Portage La Prairie.

Members' Observing Nights
Glenlea Observatory

Saturday September 10

Members' Observing Night out at the Glenlea Astronomical Observatory. If you have not used the observatory much, this is your chance to see what is there, with other members both newbie and experienced. It starts at 8 o'clock p.m., clear or cloudy but not if it is raining. Bring mosquito repellant and a telescope if you have one. This month's hosts are Jay and Gail.

Saturday October 15

Members' Observing Night at the Glenlea Astronomical Observatory starting at 8 p.m. Hosted this time by Marlene and Ron.

Labour Day Weekend

This is another of our Spruce Woods Star Parties, and it promises to be a dandy! Over several nights, we will have observing, public sessions, and talks by our members to the camp visitors. We can arrive Friday evening and stay until Monday morning at the winter use area. This looks like it is turning out to be the best one yet, so come with your telescope, camping gear, enthusiasm for astronomy with your friends. More details are available on the club website, < www.winnipeg.rasc.ca >

Saturday October 8

This year's annual Public Star Party at Birds Hill Park. We always have a good time here and this year should be the same. The plan is to be set up around 6:30 p.m. There are number of interesting objects to show to the visitors, as well as our chance to talk to the public about our club, astronomy, space, and light pollution. It will be a great way to end National Space Week, Oct 2 to 8.

News in a Minute

The award winning RASC Observer's Calendar for 2006 is now available. Why not pick one up for yourself or for your favourite astronomer? Price - $15.00

The Isabel Williamson Lunar Observing Program Guide is now available. Take up the challenge of the RASC'S newest observing program. Price - $7.00

(The above items are available at centre meetings from the Treasurer.)

On August 10, the Society's National Office welcomed Jo Taylor, who is now our Membership & Publications Clerk. Her email address is: mempub@rasc.ca Not only will Jo handle the multitude of orders and membership renewals, she will also help our Executive Secretary, Bonnie Bird, respond to general inquiries at national office. Jo's schedule will be Monday, Wednesday and Thursday.

ATM Journal 14:
Encoders and Digital Setting Circles
By Gord Tulloch, RASC Winnipeg

A few months back I described a current project to implement GOTO and computer control on a commercial mounting. This time we discuss a related project to add encoder capability to my Bartels based system.

An extension to adding movement capabilities to a mount is to put some facility in place to determine where the mount is actually pointing to supplement the counting that stepper motor software does to maintain a "virtual" position – as with most things, planning doesn't often survive contact with reality so some feedback on actual position not only provides a closed loop system but allows the system to be easier to use when the user wants to do something manually.
Even without full GOTO capabilities, adding positional sensors are very useful in finding objects. On Dobsonian mounts in particular, Digital Setting Circles are becoming common tools to determine where the telescope is pointing in RA and Dec so the observer can more easily find objects and in particular find challenging objects that are too faint for finder scopes. In my case since I observe primarily from a fairly light polluted location, DSCs allow slewing to an object that isn't readily apparent even in the telescope until a long exposure is taken.

DSCs generally include a pair of encoders, one per axis, and some form of computer that counts pulses from the encoders and calculates positions based on the counts.

There are a number of commercial systems out there that provide DSCs that can be retrofitted on any telescope – an incomplete list is appended at the end of this document. For the ATM handy with a soldering iron, Dave Ek has created a project that's easy to build and implement on your telescope (see Dave's Digital Setting Circles page at http://home.earthlink.net/~david.ek/digicircles/) The circuit board and a PIC based microcontroller (in essence a computer on a chip) can be purchased for under $100. Other parts are readily obtainable from electronics supply houses like Jameco. Soldering everything was easily done in an evening using Dave's directions, even with my limited experience in wielding an iron. Debugging cold solder joints and other errors takes another few evenings (depending on how badly you mucked it up in the first place!)

The result is a circuit that connects to a pair of encoders and, through a serial connection, to a computer or PDA. Supported software includes most of the major Planetarium packages such as HNSky, The Sky, Starry Night Pro, SkyMap Pro,

SkyChart III, Megastar 5, or any ASCOM compliant package. There's even software available for Palm based PDAs which make things much more portable.

Implementation on a telescope mount involves mounting the encoders on the mount, optionally with some form of gearing to increase the number of encoder revolutions per mount movement to increase the final resolution of the encoders. Encoders are generally rated on the number of counts per revolution (CPR), with something in the range of 4000-10000 being desirable. Since Dave's circuit and software actually track two channels of the encoders in quadrature more (see his site for more details), you get a final "ticks/revolution" of 4 times the CPR rating. So, if you procure 1024 CPR encoders you will achieve 4096 ticks/rev or a resolution of 0.09 degrees per tick. My encoders (bought from an ATM on Astromart) are 4096 TPR which puts my resolution at 16384 ticks/rev, or 1.3 arc mins per tick which is very fine, so I didn't gear the system down any further.

Attaching to the mount is similar to mounting motors. The ideal place for mounting encoders on a CG5 are under the polar alignment scope assembly for RA and under the counterweight assembly for Dec. Obviously mounting the encoders directly would be problematic, so a 1:1 spur gear setup is used on each axis to put the encoders in a reasonable position, particularly on the RA axis since I still want to be able to use my polar alignment scope. So, I templated the required brackets using thin aluminum, drilled the required holes then bent some 4mm aluminum strip (from Canadian Tire) to match the dimensions required, with some slots for adjustment. The diameter of the gears that mount on the encoder shaft and the mount are simply the distance between the center of the encoder shaft and the center of the RA/Dec axis. These gears were ordered from SDP/SI (http://sdp-si.com) as were the belt drive components for the drive system on my scope.

Incidentally, at the same time I addressed another need for my automation project – mounting the focus motor for the Bartels system so I could focus via hand control rather than the focus knob. As with the encoder brackets I templated the required bracket with aluminum then fabricated a steel bracket that mounted on the CG5 to facilitate removal of the SCT OTA for dark sky observing away from the observatory.

Some Commercial DSC Systems

EzDSC http://pw1.netcom.com/~tlsystem/ezdsc.htm
Losmandy http://www.losmandy.com/ldsc-manual.html

Members' Observing

The following members are working towards their:

Messier Certificates:

Eugene d'Auteuil	41
Murray Rennie	19
Lindsay Price	34
Kris Keller	68

Explore the Universe:

Terra Jentsch	35
Stan Runge	13
Tim Kennedy	35
Judy Starr	22
Ray Starr	21
Eugene d'Auteuil	12
Murray Rennie	6
Sandy Shewchuk	24

Finest NGC's:

Sean Ceaser	70
Mike Stephens	94

Herschel 400's:

Stan Runge	153
Sean Ceaser	136
Mike Stephens	123

Welcome to our newest member!

Barry Morrison, Winnipeg

Are you working on your Isabel Williamson Lunar Certificate? Let me know how many you have at wgail@mts.net and see your name in the next issue!

If you are interested in using the Warm Room please contact Lindsay Price for a key ($10.00 deposit required). If you would like training on the LX200 Lindsay will be running training sessions, but not on Members Observing Nights. You can contact him at 227-4684 or flprice@mts.net or talk to Lindsay at a meeting.

The Winnipeg Centre Executive Council
President
Lindsay Price 227-4684
flprice@mts.net
1st Vice-President
Ron Berard 668-6551
rcberard@mts.net
2nd Vice-President
Jennifer West 284-6548
westjl@cc.umanitoba
Past-President
Gail Wise 794-2624
wgail@mts.net
Secretary
Jay Anderson 474-1485
jander@cc.umanitoba.ca
Treasurer
Mike Stephens 832-0485
mikestephens@shaw.ca
Councilors
Lloyel Hull 256-6510
lloyelhull@shaw.ca
Sean Ceaser 797-4509
sceaser@mts.net
Kevin Black 224-0182
cblack@shaw.ca
Marlene Wallace 265-3523
mtlwallace@hotmail.com
Stephen Smyth 837-3579
weatherwisetentrentals@hotmail.com
Ralph Croning 885-4326
rcroning@mts.net
Appointed Positions
Librarian
Fred Wood 774-3238
fred_wood@shaw.ca
Observatory Director
Ray Andrejowich 667-6896
saturn3@mts.net
Observatory Bookings
Kevin Black 224-0182
cblack@shaw.ca
Webmasters
Ron Berard
rcberard@mts.net
Gord Tulloch
gtulloch@shaw.ca
Winnicentrics Editor
Gail Wise 253-8297
wgail@mts.net

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Observing report: Aug 4-7 Saskatchewan Summer Star Party (SSSP)

by Ken Metcalfe

Latitude: 49 deg. 39'.208 N, Longitude: 109 deg. 31'.25 W
Time Zone: Central Standard (CST) minus 6 hours from UT
3948 feet
A Dark Sky Preserve
About 260 attendees (mostly from Saskatchewan, Alberta, Manitoba and British Columbia)

My 5.1ATS OA and I attended our first star party – Yahoo – I thought I was addicted before ;) Though the skies were good, many noted that they were not as dark as other years. The Milky Way was well developed. The sky was not very stable the first two nights and on the third it seemed stability was slow-mo. The campground was painfully dry and hot during the day. Though it cooled quickly, there were never any humidity issues at ground level.

Wide field was through Celestron's E-Lux series 2" – 32 mm. At the swap table I happened into a trade acquiring an E-Lux 40mm. For $75 - $100 I am quite happy with both of their performance.

For higher magnification I used a 7mm Nagler which seemed to be near the stability limit when more than 15 to 20 degrees off zenith,

This was the first good opportunity I have had to go head to head with a variety of other scopes. With the dark skies a regular tour of objects did show brighter. And for a personal treat I got my first evening that I could find and resolve both Uranus and Neptune! Dark skies sure make those little babies easier to identify! Mars never climbed high enough to obtain a steady imagine to see any detail :(Only a suggestion of a polar cap would flash in the eyepiece. I had a number of visitors as I had given a 10min review of my scope at the open presentations. I believe mine was the only unobstructed Newtonian many had ever seen. Some of the best ooohs and ahhhhs came from Epsilon Lyrae – Double-Double. I even got a mild platitude from my camp neighbour observing with his Vixen ED 114mm apo ;)

It was also the first time in many years I noticed how dark-adapted my eyes became. At one point I noted that I wasn't seeing in colour and several yellow lettered camp signs appeared as black and white! If it's just my old aged cones failing me please let me down gently ;)

Long live star parties ☺

Ken

Observing the Perseids *continued from page 1*

To my delight, the sky at the zenith began to clear. I could see Cygnus, Lyra and Aquila. The stars of the summer triangle which lie in these three constellations were like jewels in a crown. I craned my neck backwards and could see the Big Dipper. Now all I needed were some bright streakers. I sipped hot chocolate and gazed at the heavens. And then they came. Clouds!!! Lots of them!!! And the whole sky was once more a projection screen for light pollution from the north. Oh well!!! I was still having a great time.

By now howeve,r the horizon began to clear a bit, so I sat upright and did a visual sweep. To the east I could see a big fuzz ball. If I knew my skies correctly that should be the Pleiades. So I got up and walked over to my car, which incidentally is a Subaru, which is Japanese for Pleiades. Sometimes I wonder if that fact alone was the deciding factor for me to buy this vehicle. I removed my binoculars,which I carry in my car's "astronomy emergency kit" and picked a bright star on the horizon to correctly focus the binoculars with. I then did a sweep towards the fuzz ball I had seen. There in all its glory was the Pleiades star cluster. As beautiful as ever, this cluster never fails to warm my heart. It was my maternal grandmother's favourite star cluster and is now mine.

After gazing at the Pleiades for a few minutes I went back to the lounger and lay down. The clouds seemed to have gotten heavier and the wind had picked up a notch. I reached for my hot chocolate, but the cup was empty. So I went into the warm room to make myself another.

Back on the pad, I settled into the lounger and just enjoyed being out there. The solitude at Glenlea is something I never noticed before because I had always gone there to engage in active observing or astrophotography. And more often than not, I had company. This time to myself, alone, seemed almost therapeutic. It is a great way for one to relax the mind and body and maybe the soul too. So I just cleared my mind of all thoughts, consciously relaxed every part of my body and just let my senses take it all in.

During this Zen moment I started to notice that the clouds were thinning out and I could see the summer triangle once again. I repositioned my head so I couldn't see anything on the horizon. My entire field of view was cloud and some clearing sky. I projected myself into this panorama and could feel myself flying in space among the stars (I wonder what the folks at Boston Pizza put in their team pitchers besides Rickard's Red). My mind began to wander and from nowhere came the thought of space junk and what would happen if while I was flying out there I was hit by a satellite, lost tools or a camera. That was the end of my reverie.

My thoughts then wandered to my recent trip to Toronto and its suburbs. On one evening my buddy James and I decided to take his niece and a friend of hers observing. James' niece had received a telescope as a Christmas gift a couple of years ago and it was still mostly unused. We drove for nearly 2 hours in search of a dark enough site but none was to be found.

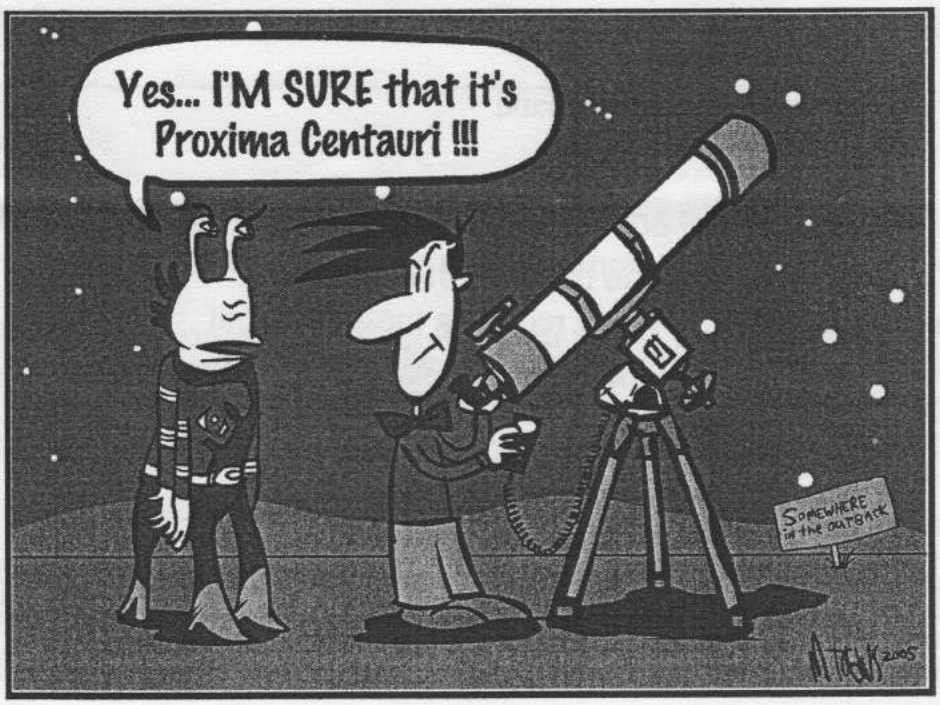
Eventually we set up the scope in a deserted, light polluted parking lot in the middle of nowhere and did some lunar observing. It was so satisfying to hear the Oooohs and Aaaahs from the children while they gazed at the moon through the telescope. We also did some afocal lunar

photography which was, as the kids put it, COOL!!! But I was saddened at the same time when I realized that these children and others like them in Ontario who love the sky, have no dark sites available to them within easy reach. My thoughts then came back to Manitoba and when I did a mental comparison, the skies at Glenlea are coal black compared to most places in urban and suburban Ontario. I then thanked my "lucky stars" that here in Manitoba, I am still within 30 minutes to an hour of some pretty dark skies where I can engage in my hobby……no, my passion. And the thought that came to me then was….."I am out here alone, but I am home!!!"

At about 02:20 I awoke with a start. I had been asleep for about 10 minutes. I looked up and around and the skies were completely overcast and bloated. It had turned quite cold. The wind was blowing strongly and I reached for my cup of hot chocolate, only to find that the strong wind was creating white caps in it (now I am convinced that there was something added to the Rickard's Red). At this point I decided to call it a night. It was a wonderful being there, but I felt cold. I packed up my gear, signed out, locked up and headed for home.

A night such as this I wish upon everyone. In the two hours I was there I felt rejuvenated, my spirits were lifted (we must have that beer at Boston Pizza tested) and I felt younger with a noticeable spring in my step (that may have been the uncut grass around the pad). All in all, despite the clouds……it was time well spent, alone.

Mr Bud . . . does astronomy
by Murray Toews



THE RASC WINNIPEG EMAIL LIST

As a Winnipeg Centre member, you may want to join our email distribution list. It's a method to send messages to many of the members in our Centre. You can ask questions, or send us updates of your latest observations. Simply send the messages to the email address rasc-wpg-request@lists.cc.umanitoba.ca and all of us on the list can reply. To join, follow the instructions below.

Subscribing On The Web (*the easy way*)
Go to:
http://lists.umanitoba.ca/mailman/listinfo/rasc-wpg

There is a section on the page for subscribing to the list. Fill in the little form with the e-mail address, a choice of whether or not to receive a daily digest of the list, a desired subscription password, and confirmation of that password. After filling in this form, click the "Subscribe" button. You will then be shown a page with the status of the subscription attempt. E-mail will also be sent.

Subscribe By E-Mail (*the more difficult way...*)
For people to subscribe themselves using e-mail, they will need to compose a message to

rasc-wpg-request@lists.cc.umanitoba.ca

On the subject line of the message, the command

subscribe

should be entered. This can also be put in the body of a plain text message. Then, send the message. You will receive a message about subscribing to the list. If you do not receive a notice within an hour or so, go through the procedure again being very careful that you follow the instructions exactly.

*** The most common failure with this process is that the program used to compose the message writes html code or fancy formatting. Be sure to set your mailer to produce plain text messages before trying to subscribe. ***

SSSP 2005 A "Stellar" Success

by Lindsay Price

This year's SSSP got off to an auspicious start when, as part of Saskatchewan's celebration of 100 years within Confederation, the park sent a free camping pass to all star party registrants. Then people began to arrive, lots of them! This year there were about 250, I counted 10 from our Centre, even though a number of our regulars were in Ontario at Starfest. The Manitoba contingent hailed from Winnipeg, Portage, Grosse Isle and Erickson. Ken Metcalfe gave a Friday presentation on "Off Axis Telescopes", and Nicole Choptain won one of the prizes, which was a hard cover book, "Seeing in the Dark". She let it be known that the book would be read and reviewed for Winnicentrics and then donated to the library. Thanks Nicole!

For some of those who showed up early there was some disappointment on the Wednesday, as the Meadows which was reserved for us starting the next night, was an RV park with everything from Coleman lanterns to street lamps, but from Thursday on, it was strictly lights out. Not only was it dark, it was clear, perfect temperature both day and night, and the mosquitoes had been told to be somewhere else. An early event was the "Binocular Walk" lead by Rick Huziak and for a nice touch they had acquired tarpaulins this year so people could lie down with their binoculars and have the whole celestial panorama spread out above them. With telescopes there were beautiful views of planets and fuzzies, both from each person's own list and from the visiting going on from 'scope to 'scope. As well as the deep sky sights, we had the beginning of the Perseid meteor shower and countless satellites. Even the aurora came out but stayed discreetly in the north so as not to be a nuisance.

We had great skies, great weather and the talks were terrific. Along with a number of short talks, including Ken's, there was one from Lethbridge on Light Pollution abatement which they are working on making into a generic "Talk in a Box" which can be used by any Centre's speakers. They had a number of copies on CD, and I brought one back for our review. Alan Dyer always gives excellent presentations and this was no exception. He did an illustrated talk on his visit to astronomy clubs in Australia and the eclipse from Pitcairn Island. Then came the Father Lucien Kemble Memorial Lecture. It was given by Ivan Semeniuk, whom most of us know from Discovery Channel. His talk, "7 Worlds in 7 Days" told us how the days were named for Gods, and why they are in the sequence that they are. French use the Roman gods, Sol, Luna, Mars, Mercury etc, while English uses Teutonic Tue, Woden, Thor, Friae etc. He then looked at the exploration of the seven wandering bodies from the time of Ptolemy to Mission Probes not yet launched. From start to finish he held us all spellbound. Following that was a delicious banquet, which, to the credit of the Resort Inn, has been getting better and better year after year. Another night of great observing and on Sunday morning most of us struck camp and headed home filled with gratitude for the members of the Saskatoon and Regina Centres who work so hard to make the SSSP the astronomical yearly highlight for so many of us.

Members Observing Night August 13 at Glenlea Observatory

By Gail Wise

We finally had a clear night (well, sort of) on the 2nd Saturday of the month. 10 of us came out, some for their first time at Glenlea. As it started to get dark we took a look at Jupiter and Marlene must have been looking down instead of up because she was the first to notice 2 fauns and their mama just behind our dome. We all looked at them and they looked at us, and they must have found us more boring because they turned around and walked away, their little white tags wagging behind them.

From either pessimism or idiocy I didn't take my scope so I made a pest of myself at most of the others. The moon was so close to Antares that we couldn't even find M4 but we had lots of other goodies to look at. Brian showed us Uranus and Peter let me play around with his GoTo. M31 was particularly nice, as was my personal favourite, M11. Terra, with the her Mum's encouragement, my inspiration and Gerry's 17 x 50's added 5 observations to her Explore the Universe list! We saw oodles of Perseids; some were really impressive and one left a trail that Gerry could see with binoculars for at least 20 seconds.

As the evening got chilly we went inside and ate the cookies that were left over from Friday's meeting and discussed many important topics. By 12:45 we had had enough excitement and packed up to go home.

Winnipeg RASC Presents:

Spruce Woods Star Party 2005

Labour Day Long weekend, September 2nd through 5th

Friday: Sept. 02

Afternoon thru Early Evening: 300 – 8:00 p.m. *Arrival, Setup, Register, Welcome*
Night: 9:30 – Dawn: *Member's observing*

Saturday: Sept. 03

Afternoon: 3:00 – 5:00 p.m. *Astronomy Workshops* (open forum)
Location: Interpretive Centre Theatre, Kitche-Manitou
Evening: 7:00 – 8:30 p.m. *Public Presentation*: 'Navigating the stars'
Location: Kitche-Manitou Amphitheatre
Night: 9:30 – 11:30 p.m. *Public Observing*: Location: Winter Campsite, Ice Rink
9:30 – Dawn: *Member's Observing*

Sunday: Sept. 04

Afternoon: 1:00 – 2:30 *Swap Table* Location: Winter Campsite Meadows
3:00 – 5:00 p.m. *Astronomy Workshops* Location: Interpretive Centre Theatre
Early Evening: 6:00 – 8:00 p.m. *Pot Luck/BBQ* (Members only)
Evening: 8:30 – 9:45 p.m. *Star Talk around the Fire*(members only)
Night: 9:30 – Dawn: *Member's observing*

Monday: Sept. 05,

Morning: 9:00 a.m. Pancake Breakfast
Midday: 12:00 noon Closing Remarks, Clean up

ELECTIONS 2005!

It's that time of year again!

At the October meeting we will elect two new Councilors and our National Representative. Any Centre member in good standing can nominate another Centre member using the form on the back of this insert.

The position of Councilor is a great way to join the RASC Council. It involves attending the council meetings (6 or 8 a year) at which we help make the decisions about what we do for the year. Councilors also assist in public observing and other public relations activities, such as Astronomy Day. There is an expectation that each Councilor host one members' observing event per year at the Observatory, and offer at least one presentation at a Centre meeting or write at least one article for the newsletter per year. In addition, Councilors will assist in other projects, such as observatory maintenance or other tasks as their skills and interest allow. This is a 3-year term.

The duties of our National Rep are to represent the Winnipeg Centre on the National Council, at the GA plus two other meetings a year; to inform the Centre of impending Council decisions and survey their wishes, and to vote accordingly at the Council meetings. This is a 2-year term.

Nominees for Councilor must have been members of the Centre in good standing for one (1) year prior to nomination. Nominees for National Rep must have been members of the Centre in good standing for two (2) years prior to nomination. To nominate a current member for a position, nomination forms may be mailed to the Nominating Committee c/o Gail Wise, 81 Triton Bay, Winnipeg MB, R2M 2G3 or brought to a meeting. Nominations will also be taken from the floor at the October meeting.

NOMINATION FORM FOR ELECTION TO THE

RASC WINNIPEG CENTRE EXECUTIVE COUNCIL

I, _____ being a member

in good standing of the Winnipeg Centre of the Royal Astronomical Society

of Canada, hereby nominate Centre member

_____

for the position of _____

for the 2005/2006 membership year.

Signed this _____ day of _____ 2005

Signature _____

Witness _____

I, _____ being a member

in good standing of the Winnipeg Centre of the Royal Astronomical Society

of Canada for one year, do hereby accept the nomination above.

Signed this _____ day of _____ 2005

Signature _____