



PeGASus

Newsletter of the

Royal Astronomical Society of Canada: Prince George Centre

Published: January to May & September to November.

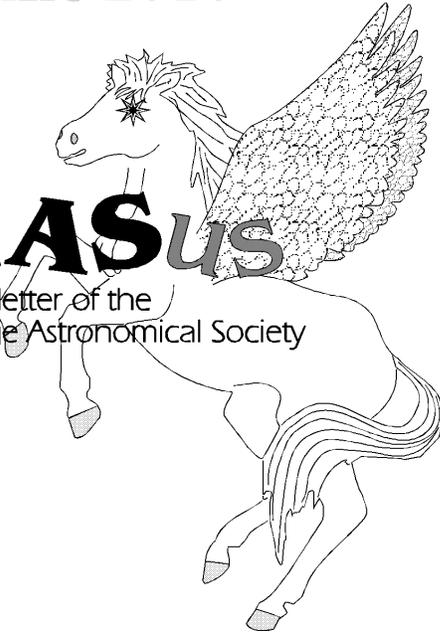
www/rasc.ca/princegeorge

May / June 2010

*Our pursuits are out of this world.
Our activities are astronomical.
Our aim is the sky.*

PeGASus

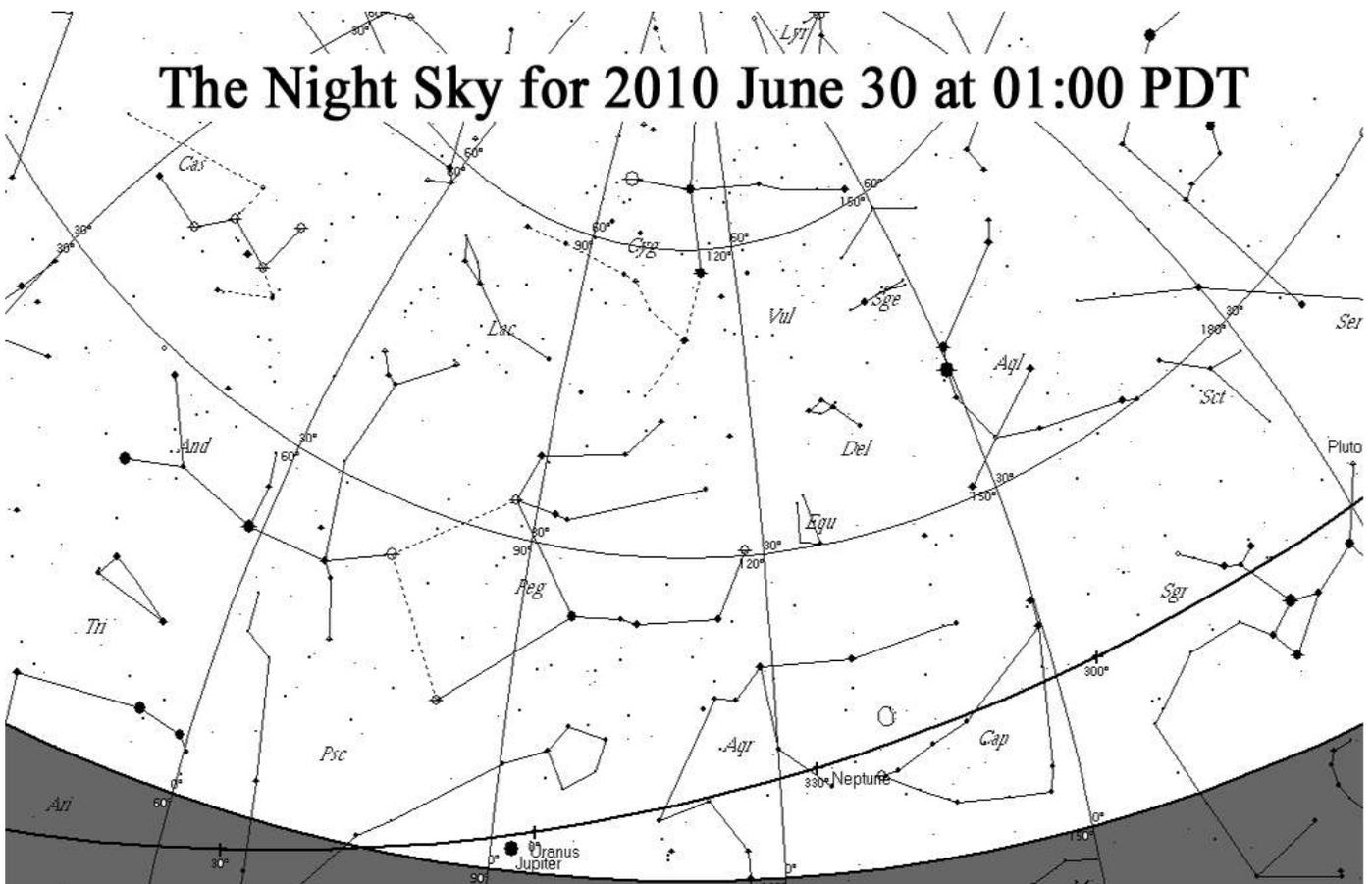
Newsletter of the
The Prince George Astronomical Society

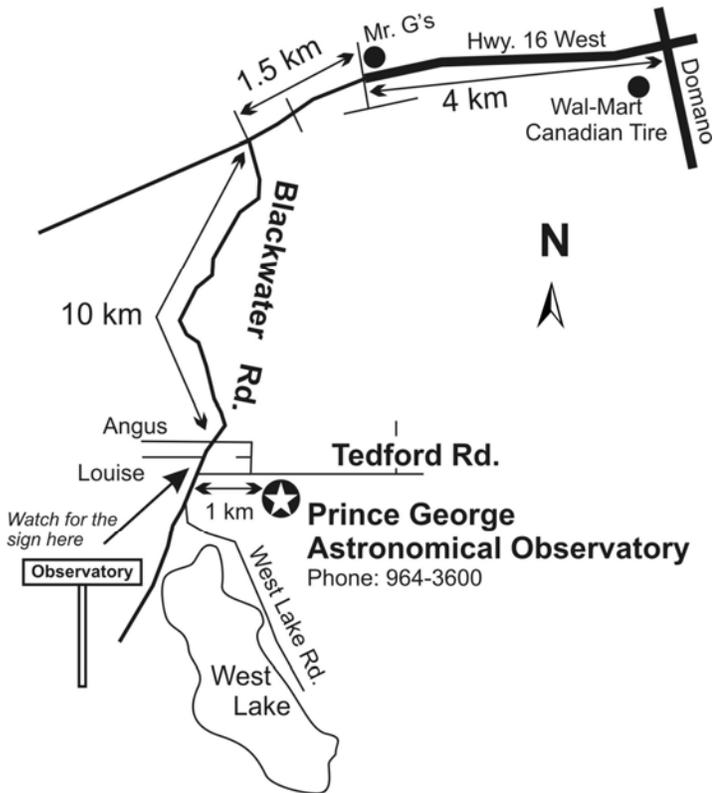


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The Night Sky for 2010 June 30 at 01:00 PDT





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Contributions to the newsletter are welcome.

Deadline for the next issue is

September 17, 2010
Last issue until September
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Coming Events

To Volunteer to help run an event please contact Brian Battersby.
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Phone: 614-3316 (cel) 612-4623 (home)

For an up to date list of the Volunteer Schedule / meetings / classes visit our website in the
MEMBERS AREA

www.rasc.ca/princegeorge

Editorial

Well this is the end of another observing season. The club has always broken the year into the spring observing season and the fall season, We meet a month or so before the start of a season and try and plan as much of the coming months activities as possible. At these meetings we schedule as much staffing as we can and hopefully have by the time we are done an interesting series of events for club members and the public. If you would like to help either planning these events or as volunteer staff please attend one of our business meeting and bring any ideas you may have.

Generally we use the summer to catch up on maintenance of the telescope and the building so just because the observatory is closed to the public you will still find lots of opportunity to come and help or learn how to use the equipment.

There are several ways to stay up to date on what is happening with the club even during the summer down time. The first resource I would suggest is the club web-site, we try and keep it current with upcoming events , check it often. Maurice is doing a great job of keeping everybody informed as to what's up. If you don't get Maurice's fairly regular up-dates drop him a note he will add you to his list. There are also a couple of e-mail lists that you could have your name added to. One list is for when a key holder is heading out to the observatory, to invite anyone interested in viewing, along. Another is for when we are having a work bee to ask for people to pitch in on repairs and maintenance. Check the website under the tab "contact us" and send your request to any member of the exec listed there and they will have your name added to the appropriate list.

If you joined the club as part of the NOVA course now is the time we would like to get you involved with the club. All too often a NOVA graduate lets his first year membership run out and does not renew. This might be the time for you to figure out how to do that astronomy project you have always been interested in. Many times the exec has been approached by a member or two with an idea for a project. It might be for financing or resources to try something of interest to even just a member or two. If it's something we can do we usually support theses ideas, isn't that what a club is for? So if you're a new member this year and you have some further interests you would like to pursue, let us know maybe we can help.

Another interesting area of this club is the observatory itself. Most everything has been designed , details worked out , built and troubleshot by members. You won't find too much purchased off the shelf stuff at the observatory. That's kind of nice to know that something is there because people decided it was needed and got busy and made it happen. Over the years the team leaders have changed but we have all had our hand in. It brings out the best when you don't have big budgets to work with , you have to make due with what you have. Lately there has been some major engineering improvements at the observatory, years of wear and tear have highlighted what needed fixing, and with current improvements we have a very capable modern observatory. Bring what you are good at. You might be surprised at how many skills it takes to keep us "on the tracks".

The fall viewing season starts with a great event , the Perseids meteor shower. The peak this year is on a Thursday night August 12 but actually the early hours of August 13 so the club event will likely be the Friday night (watch the website for details) . This one of the best events of the year and even better this year with a thin crescent moon not interfering much of the night. So catch the best part of the shower stay up late Thursday night and come out to the club open house on Friday night. By then we should have the fall event schedule roughly laid out and you can add your name to the events you would like to be a part of, just speak to any host at the open house. Who knows maybe comet McNaught may turn out to be as good as the comets of 1997 and still be in the sky in August lets hope so. Perihelion is July 2 so keep an eye on this one.

You might notice this newsletter is a little late. On the original date set to produce this newsletter I had received very little material and decided to stretch this issue out over two months to see if I could include additional material. I had expected a couple more articles but they did not appear so here it is as is. Maybe we should produce a few less newsletters each year? The newsletter is here for you to share your experiences and ideas with the rest of us. If we haven't got the material perhaps we should reduce the newsletter frequency to maybe four a year, let me know what you think.

Gil

The Night Sky for May 2010

by Bob Nelson, PhD

Hi Folks,

Another month has rolled around, our activities have shifted outdoors as the weather (at time of writing) inches ever so slowly toward summer. Hopefully, our gardens are all in. The season's observing rolls to an end as daylight overwhelms the dark and we experience only astronomical twilight. (You *can* see the moderately bright stuff, but you only get a couple of hours at solstice! The planets, as usual, are good at any time through a telescope.)

Anyway, here is what will be happening in Prince George skies this month:

MERCURY is a morning object this month. At month's start, it rises about an hour before the Sun; at sunrise (04:49, mid-month), it lies only 5° above the ENE horizon. At mid-month, the numbers have not changed much, but by month's end, the tiny planet has zipped around behind the Sun. As usual, it's tiny in size, only 6", but reaches magnitude -0.9.

VENUS is an evening object this month. On the 1st, it lies 20.5° above the NNW horizon at sunset (setting 2.5 hours later); by month's end, it has moved east, lying 16° above the western horizon at sunset and sets 2 hours later. The size and phase change too. On the 1st, it's about 16" and a gibbous shape 70% illuminated; by month's end, its size has grown to 20" and is a disk half illuminated (58%, actually). Its magnitude is relatively constant at -4.1 to -4.2, resp. As usual, it's a beautiful sight in the dusk sky.

MARS, in Leo until July, is an evening object. At sunset, mid-month, it lies 29° above the WSW horizon and sets about 01:00 next morning. It's a 6" disk of magnitude 1.2.

JUPITER, in Pisces until October, is a morning object in June. At mid-month, it rises at 01:43 (about 3 hours before the Sun). At sunrise, it lies 24° above the SE horizon and is a 39" disk of magnitude -2.4. See below for the conjunction.

SATURN, in Virgo until 2012, is an evening object this month. At sunset at mid-month, it lies almost 33° above the SW horizon, setting just before 02:00 the next morning. It's now a 18" disk of magnitude 1.0.

URANUS, in Pisces until 2012 (May), is a morning object in June. At mid-month, it too rises about 3 hours before the Sun and at sunrise lies some 25° above the SE horizon. As usual, it's a 3.6" disk at about magnitude 5.7.

NEPTUNE, in Aquarius until August, is a morning object. At mid-month, it rises about 3 hours before the Sun; at sunrise, it lies some 20° above the SSE horizon. As usual, it's a 2.3" disk at about magnitude 8.0.

Summer Solstice (for northern observers) occurs on June 21 at 04:28 PDT. Summer is here!!!

CONSTELLATIONS to look for in June (at midnight, PDT) are Corona Borealis, Hercules, Serpens Caput, Scorpius, and Ophiuchus.

In Corona Borealis, there are no Messier objects; but there are two interesting stars: Alpha Corona Borealis (CrB), a 17 day eclipsing binary of the Algol type and R Coronae Borealis (R CrB) which is the prototype of a small but distinctive class of variable stars. R CrB is normally at maximum light of about magnitude 5.8 but will fade suddenly and without warning by up to eight magnitudes; the minimum may last from several weeks to up to several years. It's thought that plumes of carbon (soot!) which shoot out from the star (in the later phases of its life) are the cause of the drop in magnitude.

The northern part of Hercules contains the globular clusters M13, M92 and NGC 6229 and is fairly familiar to most of us, since it's visible for a good part of the year.

Serpens Caput contains the fabulous M5, one of the best globular clusters visible in the northern hemisphere. (It's right up there with M3 and M13.)

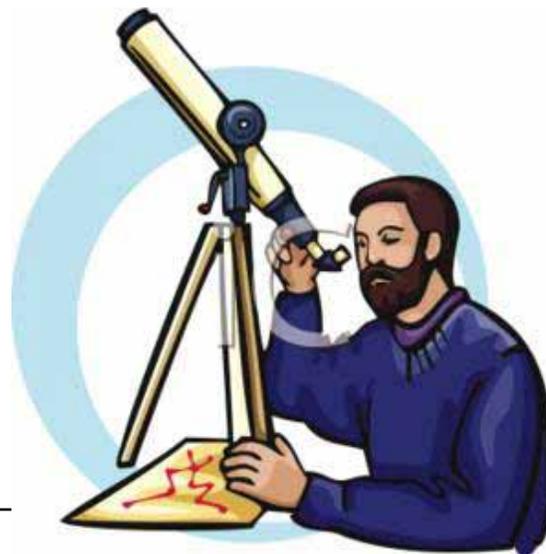
Scorpius contains numerous globular clusters: M80, about 4 degrees northwest of Antares (Alpha Scorpii), M4, just one degree west of Antares, M62, about 7 degrees southeast of Antares, and M6, near the tail of the beast (which will be very low in our northern skies) plus other NGC globulars.

Ophiuchus continues on with the following globulars: M9, M10, M12, M19, M107, plus numerous fainter NGC globulars. Check 'em out

This will be the last "Night Sky" for the season, so you're on your own until the September issue! (The constellations are all covered, since August viewing, although two months later, will normally occur earlier in the evening; you are therefore looking very conveniently at the next segment of sky. It all works out!)

Note, however, that there will be a lovely conjunction between Saturn and Mars on or about July 20. (Saturn will pass about 1.5° to the north of Mars.)

Clear skies,
-Bob



On the book shelf...

Death from the Skies: These are the way the world will end

Phil Plait, PhD

Death is inevitable. One day we will all be but molecules within the cosmos from whence we came. To quote Carl Sagan, “we are all star stuff” and it is to that beginning that we will all return, someday. It is for this reason that we strive each day to be better, to make happiness for us and others and to try to make the moments in time that the cosmic ‘stuff’ is conforms to make us the best they can be. But, death can come in many curious ways. Some we are familiar with. Doctors and medical scientists fight these battles on Petri dishes and double blind medical studies. Some we are not familiar with.

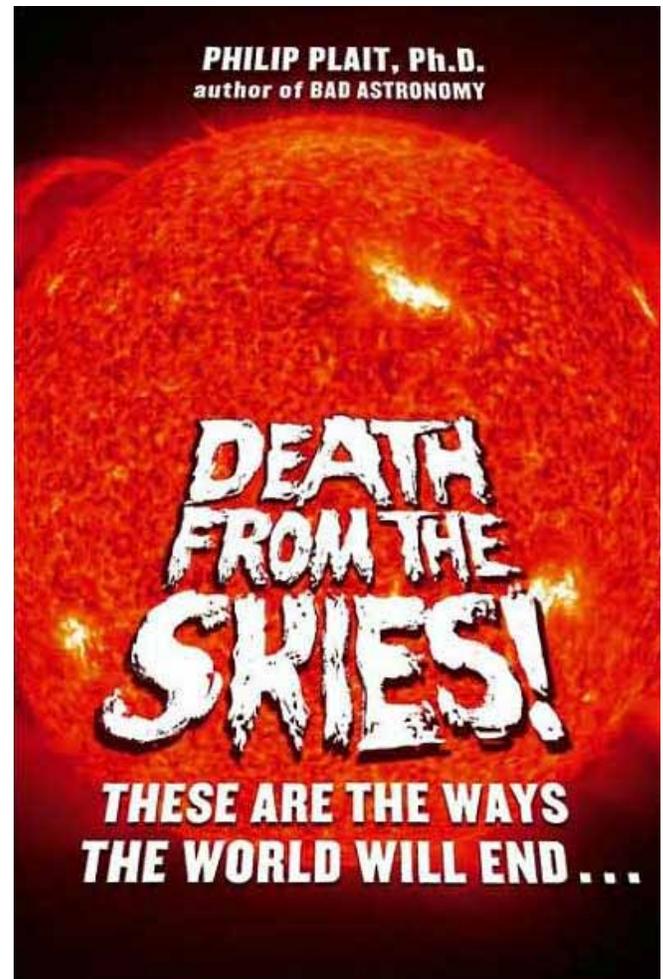
But the dinosaurs certainly would be.

It is this, the unexpected and unconsidered ways to die that this book deals with. *Death from the Skies* is a documentation of the possibility of death happening not from ill health, but from simple cosmic happenstance – the universe is an unhappy and violent place. Beautiful, but violent. The moons of our solar system alone testify to the cosmic battleground of impacts that can happen and another chunk of rock, like the one that did in the diversity of the Jurassic and allowed for the eventual evolution of humans, hitting our planet and taking us out of the way is certainly a possibility. But that is 1970’s science fiction fodder. It may happen, to be sure, but there are so many other cool and headline making ways that life on our planet – any planet – can meet its end. *Death from the Skies* takes a scientific view into the fantastic and unexpected ways that ... to quote the author... “the world will end”.

Taking off from where his first book, *Bad Astronomy*, left off in many respects, he takes on the role of a debunker (there are many ways that the world will not end, despite popular medias attempt to sell you that fear) and as a witty science educator. His love and determination for helping people both understand and appreciate cosmic wonders and reality shine through on every page. His experience and education as an astronomer have given him a foundation to explain in accurate detail, and exciting prose, solar mishaps, supernovae, gamma-ray bursts black holes, the possibility of alien civilizations, colliding galaxies and what it all means to us. Tempered with reality, science and rational thinking, this is a truly exciting look at death. Written for anybody with an astronomical interest, it is able to satisfy both experts and amateurs in their quest to understand and be entertained.

The truth is that you and I probably have nothing to worry about, but you never know. And the unknown is what this book is about.

You can enjoy this book, and his first book ‘Bad Astronomy’ as well as his daily musings and explanations of cosmic curiosities and local astronomical discoveries on his blog at <http://blogs.discovermagazine.com/badastronomy>



WHAT'S OUT THERE

Old Sol

As star-gazers we tend to think of the Sun as a nuisance (especially during this time of year), as something that prevents us from seeing what's really out there - binaries, clusters, variables, nebulae - interesting stuff that we can see only when the Sun is illuminating some other part of our world.

But the Sun is a star too. And a rather interesting one at that. Not so ordinary, in fact, as we have always accepted.

That lucky old Sun that has nothing to do but roll around heaven all day... constant and steady. A reassuring notion, perhaps, but no longer an accurate description of our star.

In recent years we have learned that Old Sol rings like a bell, churns out twisted magnetic fields, periodically (and unexpectedly) releases huge masses of plasma... sometimes it even snoozes. It may even affect the weather on our planet.

Sol is a variable star; its brightness changes over a period of years and reaches its minimum when sunspot counts are at their fewest.

When sunspots cease, when the solar wind becomes but a breeze, cosmic rays enter the Solar System unchecked from the Milky Way, raining down on Earth, and causing cloud cover to increase - which is not good for us dedicated gazers...

When our star takes its cyclical nap, it can't defend us from these extra-solar charged particles. The galaxy's cosmic rays ionize the Earth's atmosphere, which increases the formation of water droplets. Cosmic rays make clouds.

Conversely, when the Sun is at the peak of its cycle, and sunspot activity and solar outbursts abound, when the solar surface is a buzz of activity, and (fair weather) solar winds blow through our solar system, in response to the drop in cosmic rays that the Sun allows to enter our solar territory, Earth's cloud cover diminishes. A strong solar wind that reduces the cosmic rays reaching Earth means one thing to the ardent observer - clearer skies!

So, maybe we ought to change our tune, and hope that our lucky old Sun's new solar cycle revs up a bit and keeps those cosmic rays in check - with sunnier days, and clear night skies, in the cycle 24 forecast. And that will mean - lucky old us!

Fae Collins Mooney

Hi All,

I was joined by Lorne Davies and his wife and daughter at the Bon Voyage hill behind Art Knapps this morning and we had a great view of the partial Lunar eclipse. We arrived there at 02:30 am PDT and the sky was clear. The moon was already in penumbral eclipse, but the darkening was barely detectable. Shortly after 03:00 the moon started to darken dramatically on the upper left limb (NW limb of the moon) as it slowly entered the umbral shadow. Over the next hour we watched the dark shadow of the earth creep across the face. As the moon sunk lower in the SW it began to be obscured by thin alto stratus cloud. The cloud thickened and totally hid the moon about 1/2 hour before it was due to set. I did get a number of fairly good photos with a Canon Digital Rebel attached to my ETX. The last one shows the cloud stealing the view.

Have a great day,

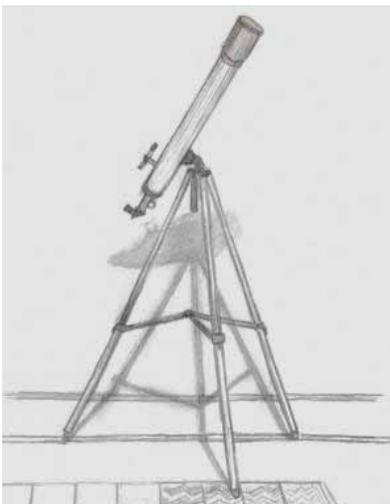
Doug



Approx 0330 June 26,2010



Approx 0400 June 26 2010



Approx 0415 June 26 2010

Want to join the RASC Prince George Centre?
 Fill out the form below and mail it in to the address at the top of the form.
 Existing members can use this form to renew as well!



THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

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Tel: 416-924-7973 Fax: 416-924-2911 Website: <http://www.rasc.ca>

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Name (Please print in full) _____

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E-mail Address _____

*Membership in the RASC includes one issue of the annual **Observer's Handbook**, six issues of the **Journal of the RASC** and six issues of **SkyNews** along with benefits that your Centre may also offer.*

APPLICATION

I hereby apply for membership in the Royal Astronomical Society of Canada. I understand that personal information is collected and used according to the Society's Privacy Policy available at www.rasc.ca/privacy.shtml

Note that **Toronto Centre** memberships are processed locally. Visit toronto.rasc.ca/content/membership.shtml for details and to download an application form.

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✓	Centre	Base National Fee	Centre Affiliation Discount	Centre Fee	Total Fee
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<input type="checkbox"/>	Centre Francophone de Montréal	67.00	(23.00)	48.00	\$92.00
<input type="checkbox"/>	Montréal	67.00	(23.00)	32.00	\$76.00
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<input type="checkbox"/>	Unattached (No Centre Affiliation)	67.00	n/a	n/a	\$67.00

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Your Total Fee (from table) \$ _____

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* Note that membership fees outside Canada are in US currency.

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Your Membership is appreciated
 Thank you.

DATE: _____

Amount paid \$ _____

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Prince George Centre**

AKA the Prince George Astronomical Society

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