PeGASus
Newsletter of the
Royal Astronomical Society of Canada
Prince George Centre

May 2005

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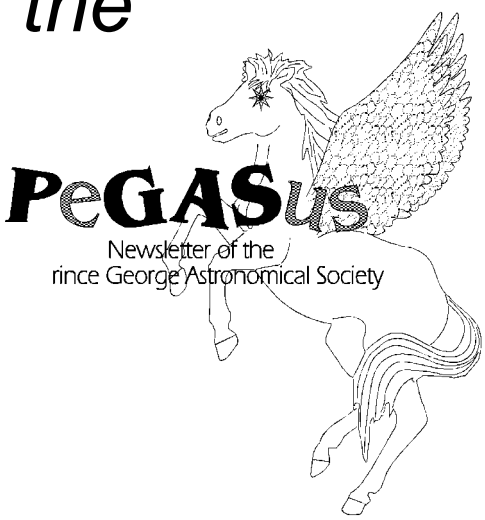

Issue # 145

The RASC-PG meets next at 7:30 pm
Wednesday May 25, at The Observatory
This Month's meeting
Dr. Patrick Mann - talking about Computational Physics

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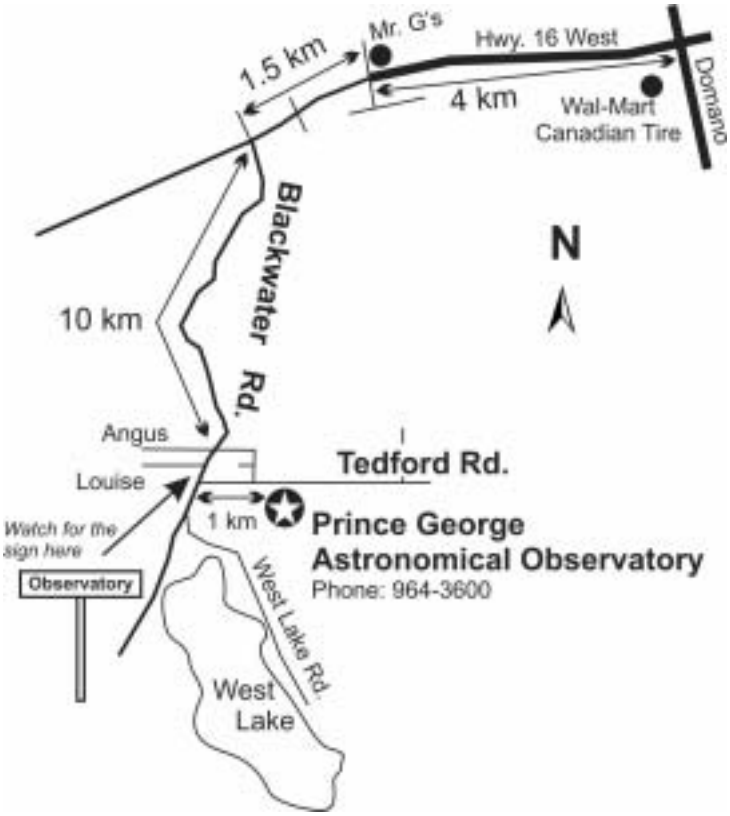
Our pursuits are out of this world.
Our activities are astronomical.
Our aim is the sky.



Contributions to the newsletter are welcome.
Deadline for the next issue is

May 14

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Editorial

By Gil Self

It's the end of another observing season. Time to get some work done at the observatory, not that there is a pile of work to do. Glenn has been keeping the place in tip top shape. We have had a very successful spring session, many new members mostly thanks to the new NOVA program. I think new members are probably the most important part of keeping our club healthy. We are all part of the evolution into the RASC and all the improvements that brings with it. But above that, the addition of new people and new ideas is the change that will make us better by far.

We have been focusing on improvements to our public outreach program. If you are not currently participating you should know that there are many new resources available. We have recently purchased four new portable telescopes suitable for use by the public at the observatory. Our library of AV materials and books should be about double once the current list is ordered. Perhaps best of all is the new screen for the digital projector, it looks really good. These and several other items that are still being worked on should give us some great tools to help share our knowledge of astronomy with the public.

One last item, you may have noticed the newsletter is a little smaller than normal. We all appreciate the time folks have put into producing many fine articles for our newsletter and I hope that they continue to do so. But for at least the last couple of years it has been frequently hard to fill the pages. More members need to submit articles, we welcome submissions from any member, but it just isn't happening. I don't think anyone wants me filling up the newsletter with "stuff" of the internet, we need to keep it ours. So I invite you comments , Initially I am suggesting half as many newsletters, unless I hear from you that's where we will start. We can reduce the number of pages as well. I think all of these things are too bad, the newsletter matters, but we can't send out blank pages.

G.S.

PREPARING FOR AN OBSERIVNG SESSION

The Scout motto of "be PREPRAED!" is especially important in enjoying amateur astronomy. If you are not prepared at best you will find yourself standing outside gazing up a the stars thinking "what should I look at tonight?" at worst you will simply stay indoors.

Personal:

- Dress warmly, in layers so you can add and remove clothing as necessary. Take a toque - even in the summertime it gets chilly standing around at night.
- Summertime: Bug dope! (Just be sure to keep it away from the eyepieces.)

Equipment:

- Store you equipment together in one place. You will be more likely to observe if you don't have to spend a half hour chasing everything down. You also will be less likely to forget something. There is nothing worse than being an hour from home and remembering you forgot your needed "whatever".
- On rainy days spend some time collimating your telescope. (follow the manufacturers instructions.)
- Keep your eyepieces clean. This is a simple procedure that ensures you get the best view out of your telescope. Do not worry so much about clean mirrors inside the telescope as they are easy to scratch. A scratched mirror is much worse than a dusty one.
- **Basic Equipment Checklist:** Binoculars, Telescope, Eyepieces, Flashlight / Batteries, Star Charts, Observing Logbook, Pencil (won't freeze up in the cold), Tool set for telescope. Cellular phone might be a good idea if you are on your own.

Planning:

- On cloudy days make up some observing objectives for different conditions. For example on clear, dark nights around the time of new moon hunt for those faint galaxies. On full moon nights you can split some double stars. On nights with patchy clouds having a list of variable stars in different parts of the sky might be worthwhile. A RASC Certificate is a great observing objective. Visit http://www.rasc.ca/observe.htm
- Objects all rise and set at different times (and seasons), plan accordingly.
- Objects at the zenith (straight overhead) and down the meridian (an imaginary line that divides east from west. Generally, an object is at its highest point in the sky when it crosses the meridian) will be in the best part of the sky to observe as you

- will be looking through less atmosphere.
- Don't forget the moon is a very interesting object to observe. It is the only body in the solar system other than Earth that you are going to see a lot of detail on.
- Star Charts: either purchase a star atlas or print charts off on your computer. Just remember that your telescope will probably be flipping the image somehow.
    - Refractor & Cassegrain (with no diagonal) – image inverted (upside down)
    - Refractor & Cassegrain (with standard 90 deg. diagonal) – mirrored (reversed)
    - Newtonian – image inverted
    - Straight through finderscope – image inverted

More Information:

- Telescope Basics. http://www.starizona.com/basics/basics.cfm
- A reference for astronomy terms. http://www.starshine.com/frankn/astronomy/AstroDictionary.asp
- Eyepice Calculator. http://www.starshine.com/frankn/astronomy/eyepiececalc.asp
- Observing Tips. http://www.astrosurf.com/benschop/Observing.htm
- All sorts of telescope tips and info. www.telescope.com (choose "Learning Center")

Clear skies and good luck! ~

Brian Battersby

Coming Events

May 17	Nat. RASC President Peter Jedicke topic: *Astronomy in Hawaii: Research, Outreach & Observing*	7:30 pm	Observatory
May 20-23	RASC National General Assembly 2005 http://www.rasc.ca:8080/rasc/index.jsp		Okanagan
May 25	General Meeting: *Guest Speaker* - **Dr. Patrick Mann**		7:30 pm Observatory
May 28	Tour - Girl Guides GUEST (expect about 75 people)	9:30 pm	Observatory
June 4	Year End BBQ.	5:00 pm	Observatory
August 5	1st Open House of Fall Session	8:30 pm	Observatory
August 6	1st Members Night of Fall Session	8:30 pm	Observatory
August 13	Midsummer Celestial Sampler	2:00 pm - midnight	Observatory
Sept. 10	Fall NOVA session starts	7:30 pm	Observatory

Open Houses run every Friday evening March through May
Members Nights run every Saturday evening (weather permitting) February through

Seeing in the Dark with Spitzer

by Patrick Barry and Tony Phillips

Have you ever gotten up in the middle of the night, walked to the bathroom and, in the darkness, tripped over your dog? A tip from the world of high-tech espionage: next time use night-vision goggles.

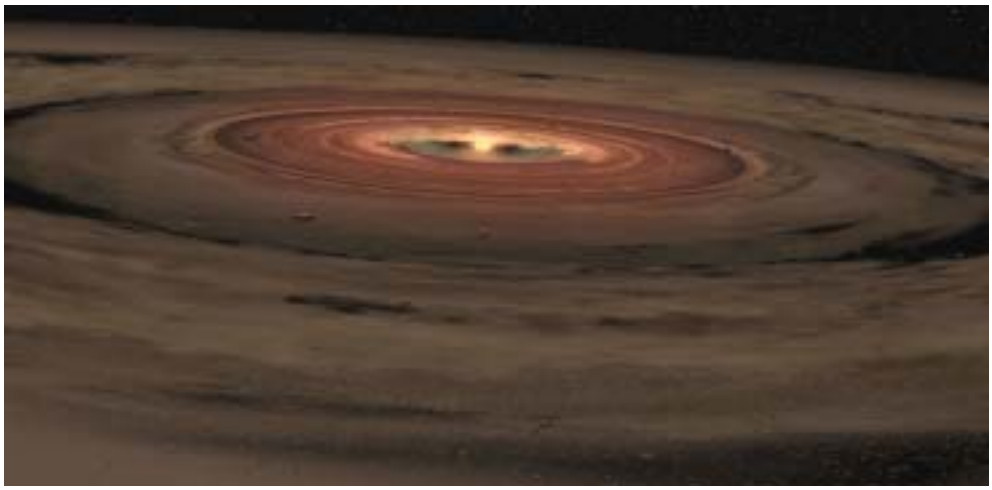
Night vision goggles detect heat in the form of infrared radiation—a "color" normally invisible to the human eye. Wearing a pair you can see sleeping dogs, or anything that's warm, in complete darkness.

This same trick works in the darkness of space. Much of the exciting action in the cosmos is too dark for ordinary telescopes to see. For example, stars are born in the heart of dark interstellar clouds. While the stars themselves are bright, their birth-clouds are dense, practically impenetrable. The workings of star birth are thus hidden.

That's why NASA launched the Spitzer Space Telescope into orbit in 2003. Like a giant set of infrared goggles, Spitzer allows scientists to peer into the darkness of space and see, for example, stars and planets being born. Dogs or dog *stars*: infrared radiation reveals both.

There is one problem, though, for astronomers. "Infrared telescopes on the ground can't see very well," explains Michelle Thaller, an astronomer at the California Institute of Technology. "Earth's atmosphere blocks most infrared light from above. It was important to put Spitzer into space where it can get a clear view of the cosmos."The clear view provided by Spitzer recently allowed scientists to make a remarkable discovery: They found planets coalescing out of a disk of gas and dust that was circling—not a star—but a "failed star" not much bigger than a planet! Planets orbiting a giant planet? The celestial body at the center of this planetary system, called OTS 44, is only about 15 times the mass of Jupiter. Technically, it's considered a "brown dwarf," a kind of star that doesn't have enough mass to trigger nuclear fusion and shine. Scientists had seen planetary systems forming around brown dwarfs before, but never around one so small and planet-like.Spitzer promises to continue making extraordinary discoveries like this one. Think of it as being like a Hubble Space Telescope for looking at invisible, infrared light. Like Hubble, Spitzer offers a view of the cosmos that's leaps and bounds beyond anything that came before. Spitzer was designed to operate for at least two and a half years, but probably will last for five years or more.

For more about Spitzer and to see the latest images, go to http://www.spitzer.caltech.edu/spitzer.



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Prince George Centre
AKA the Prince George Astronomical Society

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