

NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC | VOLUME 2009 ISSUE 3 | MAY/JUNE/ASTRONOMY DAY 2009



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About Astronomy Day

Founded in 1973 by Doug Berger, former president of the Astronomical Association of Northern California, Astronomy Day's goal is "to promote the forerunner of all scientific endeavors and to provide information, resources, and encouragement in all facets of astronomy." On this day, professional and amateur astronomers the world over host events which bring this oldest and most accessible of sciences to the public.

Join us today for talks, displays and activities for adults and children. Weather permitting, we will also be observing the sun through members' telescopes and the night sky through the GMSO's 0.5-metre telescope.

Information about the RASC, our services, and how to join can be found on page 5.

Looking Ahead

May 14: Roger Bailey of Victoria: Timelines.

Light Pollution Abatement: Awareness is the Cornerstone

by Mark Eburne

As astronomers, amateur or professional, we see light in many ways. We see it as time, as distance, as history and a wonder. We also see light as the enemy, especially when it shines in our eyes or glows in the night sky over our cities.

To an uninformed person on the subject of light pollution, this glow may feel warm, impressive to some, as a celebration of life and riches. Unaware of the effects of improper lighting, it robs people of being

able to see what lies just beyond that glow of light pollution and also unaware of the dangers light pollution presents to wildlife or to

our own health. We are further unaware of the crazy amount of energy wasted every night by using more light than needed. Being unaware of the effects of light pollution *is* the real problem. Awareness

is the corner-stone in having a positive impact on the Light

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An improvised light shield

President's Message

The International Year of Astronomy is well underway across Canada. The first quarter of IYA has been deemed a true success story—over 96,000 Galileo moments were recorded, despite the winter chill and severe storms. That number now exceeds 185,000 and should increase dramatically following Astronomy Day. The objective for the year is to share an astronomy-related event with one million Canadians.

Extremely diverse ideas have come from the very creative minds of RASC Centres and the other participating groups across Canada:

- **RASC National** has developed a number of attractive educational materials to distribute to participants in IYA activities;
- **Edmonton Centre's** early contribution was an outdoor ice sculpture with an IYA theme;
- **Vancouver Centre** is producing a series of educational videos under the title *Supernova* that can be viewed on our website;
- **Halifax Centre** member Dave Chapman published his first-ever internet podcast on the site www.365daysofastronomy.org;
- **Simon Fraser University** is delivering an extensive community outreach program, offering high school students an introduction to a wide variety of science disciplines, including astronomy. Vancouver Centre has been privileged to work with SFU this year;

- **Canada Post** has printed 6 million beautiful astronomy stamps, in two different designs—a must for collectors;
- The **Canada-France-Hawaii Telescope** (CFHT) is hosting a contest, open to all amateur astronomy clubs in Canada, with winner(s) receiving 2 hours of imaging time. For those of you who might be interested, the application deadline is July 3rd and details are on the IYA Canada website. The winner(s) will be announced in late July by Canada's Herzberg Institute of Astrophysics in Victoria, BC.
- **Parks Canada**, which includes the National Federal parks, provincial, municipal and private parks, is forming relationships with all Astronomy Clubs across Canada. One of the largest events that Parks holds is the countrywide Park Day, which is on Saturday July 18, 2009.
- **SkyNews**, Canada's astronomy magazine, has launched new IYA pages on its website: www.skynews.ca/pages/IYA.html. Through these web pages, pictures and reports from Canadian IYA activities can be submitted and a prize of a Celestron NexStar 80 telescope will be awarded to the individual, club, or school that sends a report and pictures of the best IYA event;
- In Nova Scotia a traditional **Mi'kmaq** sky story has been brought to life in a celebra-

tion of the International Year of Astronomy 2009, blending modern technology with the oral teachings of First Nations Elders.

- Toronto's internationally renowned **Tafelmusik Baroque Orchestra** premiered their beautiful new work programmed and scripted for IYA 2009 at the Banff Centre. Members of the **Calgary RASC Centre**, **TELUS World of Science** and the **University of Calgary** set up telescopes for viewing Venus, the Moon and bright stars before the concert, during the interval, and afterwards (unfortunately they will not be appearing in Vancouver this year).

Elsewhere in this issue of Nova, you will find more coverage of our outreach activities and a schedule of future events. The contributions by volunteers are very much appreciated. Your Centre continues to pursue additional IYA opportunities as we endeavour to share our enjoyment of astronomy with a wider audience and broaden our list of partners for future events. We welcome suggestions from our members.

On the lighter side, it is never a foregone conclusion that a scientific investigation will produce the results anticipated, as the following story illustrates:

An international team of astron-

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SCHEDULE OF EVENTS

- **VISIT DISPLAYS – Touch a piece of Mars rock!** – Jim Bernath & Ted Stroman **Space Centre**
- **KIDS ACTIVITIES** – Make a star finder, decorate a telescope!
- **COFFEE, CAKE AND SNACKS**
- **BOOK SALE**
- **OBSERVING** at the Gordon MacMillan Southam Observatory (weather permitting) **GMSO**

- 12:00 TELESCOPE WORKSHOP** – Wayne Lyons/Bob Parry/Bruce MacDonald **GMSO**
- *Learn the basics of telescopes and how to use them*
 - *Bring your old or new scope and get a check up and usage tips!*

- 1:00 SOLAR ECLIPSES & SOLAR OBSERVING** – Bill Ronald/Ron Jerome **GMSO**

- 2:00 RAVEN TALES** – Simon James **Space Centre Auditorium**

- 3:00 ARE WE THE POLLUTION OF STELLAR EVOLUTION?** – James Black **GMSO**

- 4:00 ALL ABOUT THE NIGHT SKY – Featuring Saturn!** – Bill Burnyeat **GMSO**

- 5:00 HELPING TO PRESERVE OUR NIGHT SKY** – Mark Eburne **GMSO**

- 6:00 OBSERVATORIES AROUND THE WORLD** – Craig Breckenridge **GMSO**

- 7:00 KEYNOTE SPEAKER** – Dr. Askel L. Hallen **Space Centre Auditorium**
**The Stuff the Universe is Made Of:
Dark Matter, Neutrinos and Astroparticle Physics**

*Depending on demand, some of the day's talks may be held again in the evening
All talks are approximately 30 minutes each*

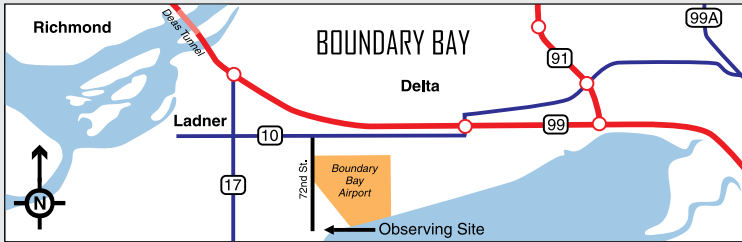
- 8:30 NIGHT OBSERVING (weather permitting) – See Saturn!** **GMSO**
- *Enjoy the night sky through the GMSO Dome scope or one of the many RASC telescopes or join us with your own binoculars or telescope!*

**DOOR PRIZE TICKETS FOR A CHANCE TO WIN ASTRONOMY PRIZES!
KIDS – ENTER TO WIN A FREE YOUTH RASC MEMBERSHIP!**

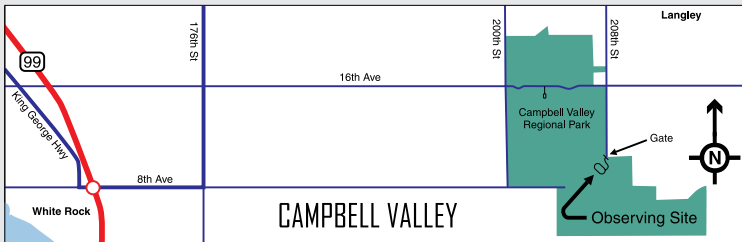
Kindly donated by: Vancouver Telescope Centre and the RASC – Vancouver Centre!

Draw just before 6:00 pm

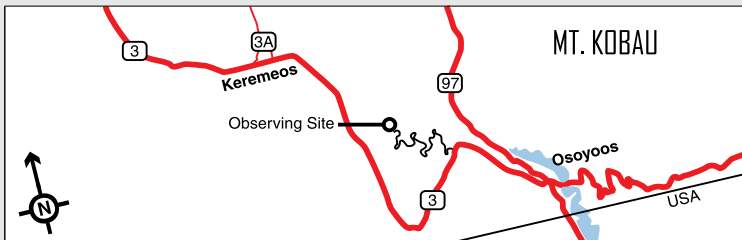
OBSERVING SITES



Site of the regular Saturday night star party. On the dike at the foot of 72nd St.



Our alternate observing site. Contact Bruce MacDonald (604-882-3820) to see if this site is in use.



Site of the annual Mt. Kobau Star Party organized by the Mount Kobau Astronomical Society

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omers “searching for the building blocks of life in a giant dust cloud at the heart of the Milky Way has concluded that it tastes vaguely of raspberries,” Ian Sample writes in the *The Guardian*. “The unanticipated discovery follows years of work by astronomers who trained their 30-metre radio telescope on

the enormous ball of dust and gas in the hope of spotting complex molecules that are vital for life. ... While they failed to find evidence for amino acids, they did find a substance called ethyl formate, the chemical for the flavour of raspberries.” The chemical has another distinguishing characteristic: it also smells of rum.

Astronomers may in fact have discovered a new recipe for raspberry cordial. ✨

– Ron Jerome
Acting President

About RASC

The Vancouver Centre, RASC meets at 7:30 PM in the auditorium of the H.R. MacMillan Space Centre at 1100 Chestnut St., Vancouver, on the second Thursday of every month. Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently \$70.00 per year (\$41.00 for persons under 21 years of age) and can be obtained by writing to the Treasurer at the address above. Annual membership includes the invaluable *Observer's Handbook*, six issues of the RASC Journal and *SkyNews*, and, of course, access to all of the club events and projects.

For more information regarding the Centre and its activities, please contact our P.R. Director.

NOVA, the newsletter of the Vancouver Centre, RASC, is published on odd numbered months. Opinions expressed herein are not necessarily those of the Vancouver Centre.

LIBRARY

The centre has a large library of books, magazines and old NOVAs for your enjoyment at the GMSO. Please take advantage of this club service and visit often to check out the new purchases. Suggestions for future library acquisitions are appreciated.

RASC-VC on the Internet

<http://rasc-vancouver/> or
<http://www.rasc.ca/vancouver>

Details of upcoming meetings and events can be found at our Meetup group at:

<http://astronomy.meetup.com/131/>

H.R. MACMILLAN SPACE CENTRE

The Pacific Space Centre Society is a non-profit organization which operates the H.R. MacMillan Space Centre and Gordon M. Southam Observatory. Annual Membership (\$30 Individual, \$80 Family) includes a newsletter, discounts on Space Camps, special programs and lectures, Vancouver Museum discounts, and free admission to the Space Centre. Admission to the Space Centre includes: Astronomy shows, Motion Simulator rides, multimedia shows in GroundStation Canada, and access to the Cosmic Courtyard Exhibit Gallery. For Membership information, call Mahi Jordao at 604-738-7827, local 237 for information. You can also reach them on the Internet at www.hrmacmillanspacecentre.com

MEMBERSHIP HAS ITS PRIVILEGES!

Membership in the Vancouver Centre entitles you to the use of our telescope loan program. This program gives prospective telescope owners a chance to use an example of the telescope of your dreams or borrow a telescope for the family vacation.

The Vancouver Centre is one of 28 chapters of the Royal Astronomical Society of Canada and membership in our centre brings benefits from the our national body including: The *Observer's Handbook*, regarded by many as the most sought after annual astronomical publications in the world, subscriptions to the National Newsletter and *SkyNews*; Canada's national astronomical magazine. Annual Meetings of the society are held in different cities and are opportunities for Canadian amateur and professional astronomers to

share experiences, observing tips and to exchange ideas on astronomy in general.

Aside from the regular meetings of the Centre, where world-class astronomy speakers and knowledgeable amateurs add to our understanding of the universe, there are monthly 'star parties'—places where we go to observe the night sky. Of course Vancouver suffers from sky glow, but we've found a place near the Boundary Bay Airport that is relatively dark. The Centre owns an observatory in the forests north of Haney and it has an association with an owner of a remotely operated telescope in New Mexico. Members can train to use either of these telescopes for photographing the thousands of galaxies, nebulae and other objects in the night sky. For really dark skies and camaraderie, there are two major star parties in BC: the Merritt Star Quest, held near Merritt, and The Mount Kobau Star Party, held on Mt. Kobau, just west of Osoyoos. The Vancouver Centre also has outreach programs such as today's International Astronomy Day where we set up our telescopes, or hold a 'meteor watch' in urban locations to show 'the locals' what's up. The Centre also has an association with the H.R. MacMillan Space Centre that affords us opportunities to use the Gordon Southam Observatory telescope and other instruments the Space Centre owns. When we do sit down for a meeting, they are a wonderful mix of professional and amateur astronomy content. Being close to a number of institutes of higher learning, we are able to draw from a huge number of professionals at the cutting edge of their fields. The 'amateur' content is a mix of 'fact and fantasy': business and observing.

UPHOLDING EVENTS

April

27-May 3 – International Astronomy Week

May

2 – Astronomy Day
29 – Galileo Presentation @ Roundhouse Community Centre

June

13 – AOMO Open House

July

17-19 – Island Star Party

August

13-16 – GA 2009 in Cypress Hills, Saskatchewan
13-14 – Perseid meteor shower
15-23 – Mt. Kobau Star Party

September

12 – Paul Sykes Memorial Lecture
12-15 – Merritt Star Quest

October

9-23 – Great World Wide Star Count

December

10 – AGM

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Pollution Abatement Program.

Today, light pollution is a really timely topic here in Vancouver, the surrounding areas and, for that matter, around the world. It is easy to see evidence of poor control in regard to the use of light. These easy-to-spot areas were not placed there to intentionally pollute the night sky. In most cases the application of light has been introduced



The effects of the 2003 Northeast Blackout on the night sky. Taken in Goodwood, Ontario (45 min. NE of Toronto). Image courtesy Todd Carlson.

without any consideration to the negative effects it has created—again, being unaware of the impact of light pollution.

Today, more than ever, we have a real opportunity to impact the management of lighting as it is applied to our daily lives. Like recycling in the 80's, it must start with awareness and rationale.

Today, we separate our recyclables from our trash because we know why and how to do it. We know the benefits of taking the effort to

do this. Light pollution abatement is the same thing. People need to know why and how before they will change. They need to understand the benefits.

So, what are the benefits of Light Pollution Abatement? Well, they are:

- improved health and wellness
- a more natural environment

for wildlife to flourish

- safer neighbourhoods by reducing crime
- a greener planet by using less energy
- darker skies for all to enjoy

Most people I have talked to do not think about light pollution or even know what light pollution is. I am sure if you go out and ask ten people what light pollution is, very few would talk about light trespass, sky

glow or glare. Even fewer would say they have thought about it and even fewer will tell you they have done something about it.

So let's work on building that cornerstone of awareness. Talk to ten people about light pollution and ask them if they have full cut-off lighting outside of their

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The weather was clear at noon on Friday, March 6th when Jim Martin and I were able to locate Venus for about twenty students at Yennadon Elementary School with our small telescopes. Once the planet was located in the clear blue sky, there was a spectacular crescent image for the students to observe. After the lunchtime break, I made a short presentation on our IYA activities to the entire school.

The evening observing session didn't turn out as well. The sky remained cloudless until about five minutes before the designated start of the session. A bright, waxing gibbous Moon saved the evening for a group of fifteen students and their parents. It was the only celestial object bright enough to be observed through the thickening cloud cover. Thanks go to Alan Jones, Jim Martin, Leigh Cummings, Kim Andruk and Clive Williams for helping out with telescopes. A planned observing session for the following week was also cancelled due to bad weather.

Although there were many activities planned, the March weather wasn't cooperating and many planned observing sessions had to be postponed. In spite of the bad weather, there were still a number

of events that did happen.

During Spring Break (March 6 – 20), Bill Burnyeat put together a series of free presentations at the BCIT Planetarium. These presentations were made available to anyone interested due to a generous grant from the RASC – Vancouver



BCIT Planetarium with Bill Burnyeat

Centre Legacy Fund. Bill used the planetarium to demonstrate the movement of celestial objects through our night time skies. He also added a bit of the ancient mythological lore from a few different cultures.

A series of Astronomy Work-

shops has been put together by Howard Trottier at Simon Fraser University introducing grade school students and interested groups to our IYA 2009 activities. There are currently 24 workshops scheduled from March 6th to June 18th. Each workshop is hosted

by an experienced presenter (usually Howard) and volunteers. No prior knowledge of astronomy is needed to participate as a volunteer! I managed to volunteer at a session for about twenty-five students from the Urban Academy, New Westminster on April 7th. After the workshop, the students were treated to pizza and homemade ice cream à la SFU Science Department.

The GVRD hosted their annual Night Quest at Pacific Spirit Park on Saturday, March 21. The evening was one of the few with clear skies for Ron Jerome, Gordon Farrell and Cameron Widén. The trio shared their telescopes with approximately 200 people that attended the Night Quest.

On Friday, April 3, Jason Rick-erby and I attended a Scout/Guide Leader Training Session at Camp McLean in Langley. A clear evening gave us the opportunity to introduce a few of the leaders to the night sky and what the RASC –

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Vancouver Centre can provide as a resource for their groups.

On the following night, Saturday, April 4, I attended a Scout Night Hike in Pitt Meadows. Jim Martin, Leigh Cummings and I were able to hook up with a few of the Fraser Valley Astronomers and man a station for the Maple Ridge – Pitt Meadows Scouts. About

seventy-five Cubs, Scouts and their leaders were given an opportunity to look through our telescopes. Clouds were once again a problem but, fortunately, a ten-



SFU Star Party (without camera flash)

day-old waxing gibbous Moon and Saturn were bright enough to be observed.

On Wednesday, April 15th, Howard Trottier held an impromptu Star Party by the Terry Fox statue on the SFU campus. Approximately seventy-five grade school students and parents observed Saturn along with a couple of its moons and

the galaxies M81 and M82. Ron Jerome, Leigh Cummings and I provided some volunteer help for Howard. Volunteer help with telescopes is greatly appreciated at these Star Parties.

To provide an incentive for students to come out and do some visual observing, a 60 mm refractor telescope and tripod will be presented later on this year to

the student that attends the most events. As part of our commitment to IYA 2009, Vancouver Centre is helping to fund the purchase of a number of telescopes to be presented to those groups attending the SFU workshops. Private donations for this project would also be greatly appreciated and are eligible for a charitable tax credit.

On April 22, I was up early and rushed outside to catch a waning crescent Moon and the planet Venus egress from occultation at 0630 (6:30 am). The event lasted less than 30 seconds but it was worth the effort to observe.

Another Galileo Moment was held on Friday, April 24 at Lena Shaw Elementary in Surrey. A good turnout of students and parents

(approx 100) to view the tops of trees and the bottom of clouds with Ron Jerome, Cameron Widen, Ronan Kerr and his dad, Doug Montgomery, Leigh Cummings and I. Moral support for the telescope crew was provided by Pomponia Martinez and Bob Parry.

Our final IYA event for April was a public outreach and information session on the 25th at Chapters Book Store in downtown Vancouver attended by Ron Jerome and Suzanna Nagy. ✨

The road to the observatory was ploughed at the beginning of April and we have been busy changing over to our new computer and imaging system. The learning curve for this old brain is pretty steep but the challenge is worth the effort. Right now we need the input of as many people as possible to iron out operational procedures with the new equipment (the Operational Checklist has to be rewritten).

There have been regular training sessions at the observatory since April 14th and we will continue once again with a regularly scheduled training session on Tuesday evenings for any interested members. We are now at the stage where we are also making efforts to use the observatory on any clear night to take advantage of using actual stars for imaging. Guide control of the telescope will be essential for better images.

Please remember that there will be a work party at the observatory on Saturday, May 16th from 1000 – 1500 (10:00 am – 3:00 pm). Please contact me if you can help out. We would like to do a good cleaning inside and out. The following images are the latest from the observatory. ✨



AOMO Site – Courtesy Babak Sedehi

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homes. Ask if they are using outdoor timers or motion sensors on their lights. Ask your local government official if there is a Light Abatement program in the community. Ask a business owner if they have done a “lighting usage

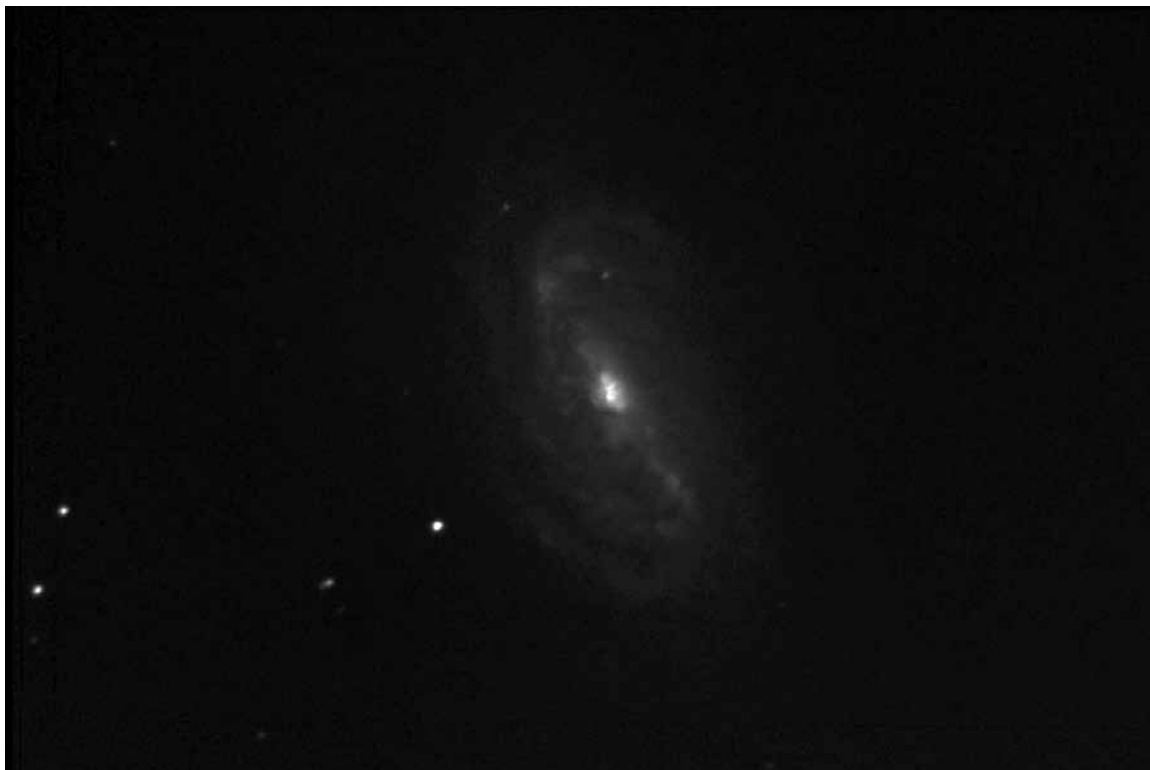
review.” Ask yourself the same questions and if you hear “no,” the cornerstone is getting bigger.

Please send me your stories about light pollution. Tell me where you see real problems with lighting. Let me know what is working on your street, in your neighbourhood

and in your community.

Let’s talk about it.

Cheers,
Mark Eburne, Chair, LPA, RASC
Vancouver
meburne@telus.net ✨



NGC 2903

In the constellation Leo

M 13

The Great Globular Cluster in Hercules



Proud To Serve Vancouver's Astronomical Community



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