

NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC | VOLUME 2007 ISSUE 1 | JANUARY/FEBRUARY 2007

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Looking Ahead

Remember, you are always welcome to attend meetings of Council, held on the first Thursday of every month at 7:30pm in the GMSO.

Jan. 11: Craig Breckenridge: How to Build a \$300 Go-To Scope.

Feb. 8: Jason Rowe of UBC: Using MOST to learn about the atmospheres of exoplanets.

Mar. 8: RASC-VC member John Chapman: Development and Operation of a Surface Mine in a Remote Location - South Polar Region of the Moon.

Next Issue Deadline

Material for the March Nova should be submitted by Monday, Feb. 26, 2007. Please send submissions to:

Gordon Farrell (gfarrell@shaw.ca)

Chris Graham Robotic Telescope Update

by Craig Breckenridge

Hi, everyone. This is a quick note to bring the membership up to date with progress on the CGRT project so far.

We have experienced several camera issues but have come up with a stable operating procedure for each setup. This means we can train operators to run the scope and will be at the CGRT Control Room every Tuesday night that it is clear in New Mexico.

The easiest way to see if we are going to be operating the scope is to check the weather at NMS on their web site: <http://www.nmskies.com/index.html>. Simply check the weather and see if they have the pods open. If they do, then we are most likely down at the GMSO from 7:30 to around 11:00pm. We welcome all members who wish to learn about the operation of this unique scope.

One of the most recent additions that Chris has made to the scope is the addition of Adaptive Optics to the guide camera. I was fortunate enough to experience the first night that Chris shared this

new feature on a night of fairly steady skies, but the addition of the AO made the guiding of the scope nearly flawless. The only issues we had were ones we had created for ourselves. The guiding system makes the acquisition of longer exposures possible and there is the added bonus of watching the AO operate in real time while guiding. It's kind of neat to monitor the

changes in the tip/tilt of the mirror.

Chris is also in the process of enabling the web-based interface that we will be able to use to control the scope. I've included a picture of it here and we will make the web address available to membership as soon as we have everything ironed out. Expect this soon.

Through the course of our commissioning the scope and learning all the ins and outs of operating it, we are building a fair repository of raw images that require processing. We have a rented ftp server where we are currently storing the data, but are also work-

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I recently wrote an e-mail to a fellow amateur astronomer that I have some regret about writing.

“Thoughts on Our Telescope Program”

“Telescopes are not an asset but rather a liability to the society. I feel we need to assess what the astronomical goals we are trying to achieve and work toward those ends. Can we compete with the expensive equipment and highly skilled personnel of the scientific community and make a significant contribution to Astronomy or do we need to cater to the general public and educate people about their night skies and the wonders that they are able to enjoy?”

“I personally feel that we need to show the general public the night sky and teach them how to observe. The RASC will be of greater service in education of light pollution and preserving dark sky areas instead of trying to compete with the scientific community.”

“To that end I feel that the telescopes we have should be used for general education and should be kept in good working order. I don't feel there is a need to make any investment toward scientific research.”

Immediately after I had clicked the send mail icon I began to think about what I had done.

Having a position on Council made me forget that I am just a newcomer to Astronomy and I started to think about what the RASC

has done and will continue to do to promote astronomy.

The many articles in the *Journal* highlight news and research of interest to Canada's astronomical community—both amateur and professional. At Vancouver Centre, the monthly talks are always informative and are presented by both professional and amateur astronomers. There has always been a strong core of members dedicated to reaching out to the public and sharing our knowledge of the skies.

Although I have many more deep sky objects to seek out and observe, the wonderful display put on by Chi Cygni last summer twiggged an interest in observing variable stars. Amateur astronomers have proven valuable to the American Association of Variable Star Observers. Observations can be made with the simplest of technology—the naked eye. If motivated & financially able, amateurs can build observatories that rival some professional facilities. And “amateurs” often bring other professional skills to the table!

At Vancouver Centre, we are fortunate to have access to both the CARO and the CGRT telescopes along with the support of those that operate them. This equipment is quite capable of making a contribution to the advancement of the science of astronomy.

The AAVSO also offers a Supernova Search Observing Program to assist amateurs hunting supernovae. This is another area that the

amateur can provide many more eyes to assist professionals. With information from amateurs, their larger scopes can be redirected quickly for further study.

The sheer number of celestial objects requiring observation makes amateur astronomers extremely helpful. There are not enough professional telescopes and they may not always be under clear skies. How many evenings have you been out observing within the last two months? By increasing the number of observers on watch for changes in our night skies, information can be passed on to the professional astronomical community when it is most useful.

In recognition of the work of amateur astronomers, many professional organizations have awards for the achievement of amateurs.

The American Astronomical Society has begun to offer the Chambliss Amateur Achievement Award annually for an achievement in astronomical research made by a North American amateur astronomer.

The Astronomical Society of the Pacific has been making an annual award for those not employed in the field of astronomy in a professional capacity since 1979.

The Edgar Wilson Award—administered by the Smithsonian Astrophysical Observatory—is allocated annually among the ama-

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President's Message

On behalf of our new Council, I'd like to wish everyone a happy and healthful 2007!

The Vancouver Centre will be a hub of activity this year with new opportunities to partner with Simon Fraser University and BCIT, in addition to our regular UBC and H.R. MacMillan Space Centre partners. That being said, we got off to a false start with the unfortunate cancellation of a January talk by Ray Villard, News Director for the Space Telescope Science Institute at the Johns Hopkins University in Baltimore, Maryland. Ray has given talks to Vancouver Centre previously and you may recognize him as being responsible for disseminating news about the latest discoveries made with the Hubble Space Telescope. The good news is that Ray will be speaking at the upcoming GA in Calgary at the end of June and we hope to have him trek across the Rockies to give a talk in July. We will keep you posted on that.

Very importantly, Council has started planning for deployment of the Paul Sykes donation made to our Centre last year. We have formed a committee to develop criteria for qualifying projects and to serve as a first step in the assessment process. Immediate Past President, Ron Jerome, will be leading this committee and will also be looking for a RASC member to participate on the committee.

This year, we would like to

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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 \$58.00 per year (\$34.25 for persons under 21 years of age) and can be obtained by writing to the Treasurer at the address on page 5. Annual membership includes the invaluable Observer's Handbook, six issues of the RASC Journal, 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.

Material on any aspect of astronomy should be e-mailed to the editor or mailed to the address on page 5.

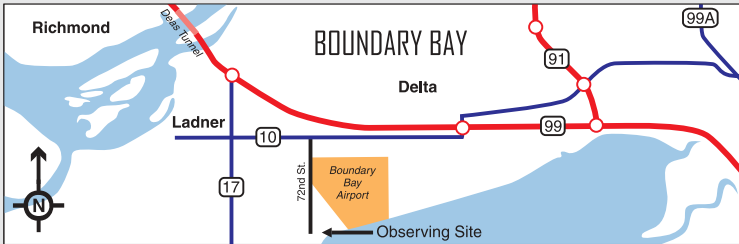
Advertising

Nova encourages free use of its classified ads for members with items for sale or swap. Notify the editor if you wish your ad to run in more than one issue.

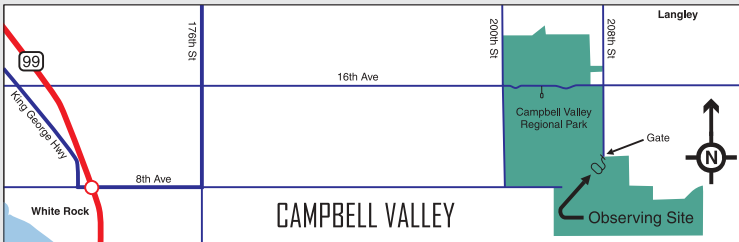
Commerical Rates

1/4 Page: \$15.00 per issue
1/2 Page: \$25.00 per issue
Full Page: \$40.00 per issue
Rates are for electronic or camera-ready files. Payment, by cheque, must accompany ad material. Make cheque payable to:
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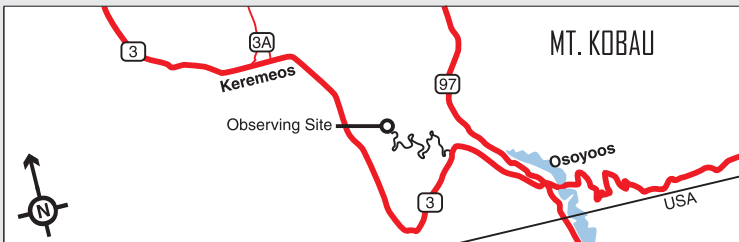
OBSERVING SITES



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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ing out the details of having the Canadian Astronomical Data Centre host the files on their servers. This would make the files available to membership for processing by simply downloading from their site and processing as required. More information on this will be forthcoming. If anyone is interested in acquiring the raw data to do some processing, we also have the image processing group meet on Tuesday nights in the GMSO meeting room. Please feel free to

join us.

The Executive Council has asked that I form a committee to investigate moving the CGRT Control Room to SFU's Burnaby Campus. We will be entering discussions with them over the next couple of months with an eye to relocating to SFU once a suitable agreement has been reached. This will ideally give us access to an .edu net based ftp server and a stable source of additional volunteers to operate the scope. We also like the idea of having CGRT associated

with a university and since SFU is in the process of increasing their presence in the world of astronomy through the addition of three cosmologists to their staff, this seems like an ideal time to spread our wings a bit. Chris is in favour of this move and we are hoping that this move will prove to be feasible. We are also going to be investigating the relocation of the CAROP project to SFU provided suitable arrangements can be made. Look for more on this elsewhere in this issue. ✨

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find another home for our Chris Graham Robotic Telescope (CGRT) project control room, which will likely move from its present location in the Gordon MacMillan Southam Observatory to a new location at SFU. Again, we will keep you advised, but you can always email Craig Breckenridge, who is now on Council heading up the CGRT team. Another activity we would like to accomplish is to get outdoors on clear nights with more sidewalk observing sessions. If you would like to be involved with this, please contact Council member Doug Montgomery, who is leading this year's observing activities. Our goal is to have more public observing events in Burnaby and Surrey/Delta in addition to our regular observing in Vancouver.

Retaining our existing members and attracting new RASC members is another important goal for us. Council member Suzanna Nagy is going to be spearheading this and you may wish to contact her if you can help. You will likely see a membership questionnaire in the near future. It is really important that we are providing relevant and interesting programming and services to our membership.

We are looking forward to accomplishing a lot this year and hopefully we will even get some observing squeezed in!

Best wishes,
Pomponia ✨

LIBRARY

The centre has a large library of books, magazines and old NOVA's for your enjoyment at the GSO. 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://www.pcis.com/rascvan/> or
<http://www.rasc.ca/vancouver>

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 <http://www.hrmacmillanspacecentre.com/>

MEMBERSHIP HAS ITS PRIVILEGES!

New members, did you know? The Vancouver Centre has 8 telescopes available for loan free of charge! We have telescopes ranging from 60mm to 10" diameter. For more information see Bob Parry, Director of Telescopes, in the meeting room of the GSO after the members meeting. All telescopes are to be picked up and returned at the GSO. The loaner period is for one month, to be returned after the next meeting. Telescopes are not allowed to circulate outside of these meetings. You can now reserve two different telescopes per year and use what is left at the end of the meeting anytime. Bob can be reached at 604-215-8844.

Your greatest opportunity as a member of the R.A.S.C. is to take advantage of the company of other enthusiasts to increase your knowledge, enjoyment and skill in astronomy.

The best thing you can do to gain the most from your membership is to get active! Take in the club meetings; engage other members with questions; come out to observing sessions (also known as "star parties"), and, by all means, volunteer to take part in our many public events.

Observing takes place at Boundary Bay on the dike at the south end of 72nd St. in Delta (see map on p. 4). We are there most clear Friday/Saturday nights. Contact Jason Rickerby at 604-502-8158.

RASC
1100 Chestnut Street
Vancouver, B.C.
V6J 3J9
604-738-2855

March

17 – Messier Marathon I at Boundary Bay

April

14 – Messier Marathon II at Boundary Bay

16-22 – International Astronomy Week

21 – Astronomy Day

May

26 – Sidewalk Astronomy at David Lam Park in Yaletown

June

18-22 – Astronomy Roundup (GA 2006) in Calgary

23 – CARO tour

August

11 – Perseid meteor shower
11-19 – Mt. Kobau Star Party

September

15 – Sidewalk Astronomy at the Inukshuk at Sunset Beach

December

13 – AGM

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teur astronomers who, using amateur equipment, have discovered one or more new comets.

As an official collaborator in the Stardust@home project, The Planetary Society is recruiting users, and informing the public about how they can share in the dream and reality of space exploration. With the aid of an easily downloadable “virtual microscope” and some basic online training, any computer user can be part of Stardust@home. You, too, can help find the elusive grains from distant stars!

The International Occultation Timing Association was estab-

lished to encourage and facilitate the observation of occultations and eclipses. With properly recorded observations from amateur astronomers, it is possible to:

- Discover new companions of stars.
- Help to improve knowledge of the polar diameters of the Sun and Moon.
- Identify the existence of possible satellites orbiting asteroids.
- Improve knowledge of heights of lunar mountain peaks and depths of valleys in the polar regions.
- Determine corrections to ephemeris errors.
- Assess star position errors.

- Improve knowledge of the shape and sizes of asteroids.

It seems like I could go on and on with the ways that amateur astronomers are contributing to our understanding of the universe. I know I’ve only touched on a few of them.

Truly we do have to evaluate what the goals of the RASC are and then work toward the best possible ways to reach them. Public outreach and education is one of these goals and it is important to help those beginning to discover the night skies. It is also very important to assist the Professional Astronomical Community in the many ways we are able to. ✱

From the Librarian

by William C. Fearon

For this issue I will review *The Binocular Stargazer (A Beginner’s Guide to Exploring the Sky)* by Leslie C. Peltier.

First, I will say that before his death, Mr. Peltier was a dedicated amateur astronomer who made over 10 000 variable star observations, tracked asteroids and built at least three telescopes by hand. The first was a 2.5-inch refractor in 1930! So this book is by an

amateur with experience on having to learn the sky and the stars by himself.

The first two chapters deal with finding your way around the sky by finding the Big Dipper and the Little Dipper, and then finding Polaris to know where North always is. There is also a brief discussion on what is a constellation.

Chapter 3 is a very short discussion on binocular types and

capabilities.

Chapters 4 through 9 discuss star charts and then provide seasonal sky charts and highlights to look at for that season.

Chapter 9 discusses the Milky Way and the various galactic objects that can be seen with binoculars.

Chapter 10 covers observing variable stars and provides charts

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This is just a quick note to update those interested in the CARO telescope at the UBC Malcolm Knapp Research Forest. The project is still on the go and there is much to do. Our current weather has not been helpful for observing but there has been a little progress in making this telescope operational.

There is much to do to get the best use of this telescope and I am hoping to find a few more volunteers to help make this happen.

Some of my goals for this year are:

- Continue to work at making the observatory functional and accessible to our membership.
- Develop a Telescope Operational Training Program based on the CGRT program.
- Work toward the possible relocation of the telescope to a more accessible site.
- CARO Open House at the observatory on Saturday, June 23, 2007

I currently have a list of RASC-VC members interested in helping out with the scope and they will be contacted by e-mail with the current activities at the observatory. Any current members of RASC-VC are welcome to become part of this project. Please contact me to have your name added to the e-mailing list. ★

Wayne Lyons
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e-mail: lyonsww@shaw.ca

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to find ten reasonably bright ones.

Chapter 11 covers observing novae and supernovae with binoculars. (Considering the automated observatories and overall faintness of these objects, this would seem to be an unnecessary addition. The last naked eye Supernova was in 1987, and visible only in the Southern hemisphere.)

Chapter 12 covers *safely* observing the Sun with binoculars. The best method is with filters mounted on the front of the binoculars (NOT AT THE EYE-PIECE!). Another method is to use eyepiece projection where an image of the sun is projected by the binoculars onto a white screen (or paper).

Chapter 13 covers observing the planets, their moons and asteroids. The phases of Mercury and Venus can be seen. Mars will reveal details at good close approaches such as 2003 and 2005. The equatorial belts of Jupiter can be seen as can the rings of Saturn. Uranus and Neptune can be identified easily with binoculars and you may be able to notice their colour. However, Pluto is visible only in the big, monster binoculars (e.g. 25 × 105mm) which have to be properly mounted to use effectively.

Chapter 14 covers looking at Earth's closest neighbour, the Moon. Lots of detail can be seen with moderate binoculars and with lighting changing as the Moon's

phase changes, objects can appear differently depending on the lighting angle. (The RASC offers an Observing Certificate for observing things on the Moon and recording them. This is a great way to begin a path in astronomy.)

Chapter 15 covers observing comets and Chapter 16 covers observing meteors.

The book wraps up with the author urging the reader to go out and observe the night sky and enjoy. Appendices follow with a sample observing log to fill out.

All in all, a book that should be read and used by all (as well as those who wish to learn how to stargaze, starting with binoculars). ★

Proud To Serve Vancouver's Astronomical Community



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