

NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC | VOLUME 2007 ISSUE 6 | NOVEMBER/DECEMBER 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.

Nov. 8: Dr. Ed Krupp, Director of the Griffith Observatory: Inhabiting the Meridian.

Dec. 13: Craig McCaw: Kobau, the Second Largest Telescope in the World and The Dawn of Colour Imaging.

Next Issue Deadline

Material for the January Nova should be submitted by Monday, Dec. 31, 2007. Please send submissions to:

Gordon Farrell (gfarrell@shaw.ca)

Title image: Chris Graham

Planum Apollonium Undecimus

by Dan Collier

The camera was an old FinePix camera mounted on the gso's 20" Cassegrain using a clamp arm. Configuration: afocal (150x). Exposure: approx. 1/80 sec at iso 400 with manual focus and auto colour balance. Time: 9:29PM on May 22, 2007. The Moon was 6.4 days old in Leo at an elevation of 43°. The Sun's colongitude was 346°. North is up and lunar east is right.

The photo was processed by separating the colour planes and manually resampling and re-registering them. Slight unsharp masking was applied (since this camera reads out in JPG, heavy sharpening is not advisable). The camera's lowest resolution (480x640) was used because the field of view of the telescope is limited. At higher resolutions, blur due to seeing is several pixels in extent.

All three of the so-called Apollo craters are visible in the original image. Craters

Armstrong and Aldrin are easy; the much smaller Collins was recorded only as a couple of pixels. Get a lunar atlas and look for these craters in your own telescope. Good seeing is the key. The size of the telescope is not important.

The large craters at bottom are Cyrillus and Theophilus, the latter with its wonderful complex of central peaks. Above centre, the flooded old crater Lamont is difficult to make out, although its associated system of wrinkle ridges running north to south should be visible. Note the abrupt boundary that divides Mare Tranquillitatis diagonally into regions of lighter and darker albedoes. It gives the illusion that the plain around Lamont is higher than the area to the northeast.

To find where the *Eagle* of Apollo 11 landed, first identify the twin craters Ritter and Sabine just left of centre and

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It's been a while since I've given you a written update on the Chris Graham Robotic Telescope project so there's a lot to go over...

Back in September, Chris had the opportunity to travel to New Mexico Skies and sit in the dome with the telescope while he wrote some control scripts. We had been planning on implementing Browser Astronomy that would have allowed the telescope to be controlled by members through a web interface. During the time that Chris was at NMS, he found it would be much simpler to implement ACP Scheduler instead. He had a very productive week and a bit and we are pleased to say that the scope now truly operates robotically.

With the use of Scheduler, Chris has found that many of the activities that were quite time consuming in the past are now simple to run as observ-

ing programs within the software package. This means that things like Dust and Dawn Flats have been scripted, as has startup and shutdown of the observatory. Chris has also in-



Caldwell 65 – The Sculptor Galaxy

stalled the required hardware to perform Dome Flats (which can also be scheduled). Of course the examination of the flats still is a manual chore, but I propose to help Chris with that in the very near future (once I learn what I'm looking for).

As it turns out, we will not require an army of operators but feel we should be using just a few to simplify communication between them. If you wish to be one of the select few,

make sure you let me know. What we really require in the way of manpower is image processors and we are also looking for observing projects as the scope has operated nearly flawlessly for more than a month. There are many projects possible from things like variable star observation to comet imaging and asteroid orbital determination. It all depends on what you, as members, want to do.

The filters on the RCOS have been changed to photometry filters so we aren't taking the conventional RGB images, however colour can be achieved by using RVB and processing as though they were normal. I've included some images in the article that will demonstrate what is possible with the scope. We'd really like to see what happens when you image gurus get your hands on some raw data.

Chris has also started do-

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President's Message

A visit from Comet Holmes in our night sky has been a welcome treat to us—going from a faint fuzzy to a large glowing yellow-coppery ball, easily visible to the naked eye at Mag 2.5 near Perseus. Bob and I checked it out on several nights in binoculars and it was quite spectacular. In fact, I just had another glimpse of the growing glow ball this evening. I hope you have had a chance to view it as well!

September 26th saw our first of six NOVA observers' classes start. The NOVA course is meant as an introduction to the night sky and is presented by our talented amateur astronomers. I am taking the course as well and am really enjoying just sitting back—listening and learning. Our last class is on November 7th where Chris Dolman will be touching on light pollution and Craig Breckenridge will discuss stars, galaxies and the universe. That's a lot to cover in just two hours! It has been a really nice programme and I want to thank our many volunteers including Ron Jerome—the key organizer and first lecturer—Bruce MacDonald, Wayne Lyons, Bill Burnyeat, Eric Dunn and Craig. Many thanks go to Suzanna

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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.

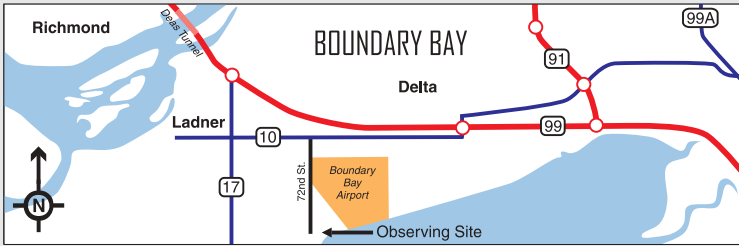
Advertising

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.

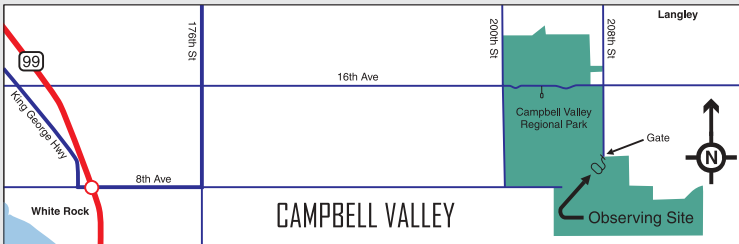
Commerical Rates

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:
RASC Vancouver Centre.

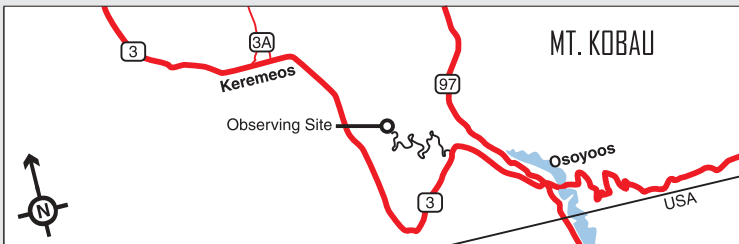
OBSERVING SITES



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 some of the variable star photometry that is his main interest and has produced some very nice plots. If you're interested in this area, please let us know and we can arrange some projects.

We are now transferring raw data and calibration images from the New Mexico Skies computer to a temporary Windows FTP server at Simon Fraser University. Within a

very short time, we will have the Linux FTP running at SFU (we're having a minor network issue) and data will become available through the Canadian Astronomical Data Centre at the Hertzberg Institute of Astrophysics on the Island. Once there, it will be available to all members through the web. If you are interested in processing images, please contact me via email. Currently we are limiting traffic to the Win-

dows FTP to a smaller group as it is running on the Control computer in our new, shared office; thanks Sarah! I'd also like to thank SFU—and in particular Barbara Friesen—for all the assistance that we are getting from the Physics department.

Chris has established a web site and Wiki for CGRT and members are invited to join if they are interested in participat-

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For Sale

105 F/10 Refractor Tube assembly for sale:

- Vixen research grade objective
- 2" focuser
- 2" diagonal
- 9 X 50 finder
- Custom built wooden stained case with brass latches
- \$300 obo

14" F/4.3 Reflector on Dobsonian mount for sale:

- Large altitude bearings with Wilsonart and teflon bearings
- 2" Rack and pinion focuser (Tectron)
- 18 point floatation cell
- Custom spider assembly by Gary Wolanski
- Optics refocused in 1995 by Edmonton Optician Barry Arnold - \$950 obo

80mm Synta Maksutov Spotting Scope:

- F/ 12.5
- 45 degree 1.25 inch diagonal prism
- 6 X 30 finder
- photo tripod available

Ralph Hildebrand

home phone: 604-572-1084

work: 604-540-7258

e-mail:

ralph_rush@lightspeed.ca

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

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Nagy for organizing registration and to Harout Markarian of Vancouver Telescope for providing his store as a classroom for the NOVA programme and for providing refreshments each week.

On October 18th, Council, along with a few invitees including Lee Johnson, Jaymie Mathews, Carl Miller, Sally Baker and Gil Biderman gathered for a planning meeting facilitated by Norman Song. Norman did an outstanding job of leading us through a packed agenda and inviting ideas and alternatives for Council to consider in the coming year.

As we near the end of another year, I want to recognize and thank many of you—here and departed—that have graciously and generously donated to the RASC and our local Van-

couver Centre. We have been blessed by a large donation from Paul Sykes, ongoing donations by Chris Graham for the robotic telescope project and from many contributions from membership-related donations. Recently, we have been sited as a residual beneficiary of the estate of Martha Ellen Pearse who passed away on May 31st of this year. Any information that you may have regarding Martha Pearse and her history with our Centre would be greatly appreciated. Your Council is committed to establishing a transparent and responsible process to ensure that all donations are carefully managed to benefit the Metro Vancouver amateur astronomy community for many years to come.

On behalf of your Council, I would also like to offer our

condolences to the family of Jean MacMillan Southam, a major benefactor of the astronomy community. Mrs. Southam died in Vancouver on Oct. 23, 2007 at the age of 91.

Our November meeting welcomes Dr. Ed Krupp, Director, Griffith Observatory, Los Angeles, California, who will talk on “Inhabiting the Meridian.” Our Annual General Meeting on December 13th will be followed by RASC Member Craig McCaw who will speak on “Kobau: the Second Largest Telescope in the World and The Dawn of Colour Imaging.” I invite you all to attend this event and join us for coffee and Christmas cookies afterwards.

Best wishes for some clear skies!

– Pomponia ✨

Photo and map by Dan Collier



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the lone crater Maskelyne halfway down the right hand edge. Imagine a line between Sabine and Maskelyne. This line marks the plain officially named Statio Tranquillitatis (Tranquillity Base) after the landing. The landing site is one Sabine-diameter south of this line, about 30 percent of the way from Sabine to Maskelyne. To emphasize the featureless character of this area of Moon, the site has been left unmarked.

This image is a sample of what can be accomplished by a lazy astronomer using an ob-

solete camera. It does not represent the state of the art in planetary photography. It is not a composite or “stack.” Many dozen exposures made in below-average seeing were acquired before a reasonably sharp one appeared. Moreover, this camera’s small LCD makes focusing difficult. To enlarge the picture for focusing, a TV set was connected via the accessory jack. This camera does not have a “zoom pane” feature to assist with focusing.

Manual mode was used.

This allows autofocus to be disabled, and the user has more control over exposure. Reduce the ISO so that the iris enlarges to accept all the rays coming out of the eyepiece. You can persuade an automatic camera to shorten exposure by panning to a brighter part of the Moon and pressing the shutter button halfway. Keeping the button halfway pressed, pan back to the terminator and finish the exposure. Use the self timer to minimize camera (and telescope) shake. ✨

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ing in the project. Contact me via email to get the relevant information. We have abandoned the RASCVAN and Yahoo groups in favour of a Google Tech group due to the better notifica-

tions available. If you're interested in joining that group let me know via email so we can get you set up. This is our main form of communication now and, depending on how

you wish to receive notifications, you can get all or just some of the notices. Chris has also started a Flickr site for images that we will update as new ones are created.

The 10" Takahashi Epsilon for Western Australia ran into some difficulties when Mike Rice was setting it up. It appears that the dimensional information we received for the focuser was a bit out of date so

problem should be fixed in the very near future, however, so we will be able to produce wide field images of the southern skies soon.

The Australia scope will run on the same basic software and hardware (although with different cameras and normal RGB filters) so we won't need additional operators for it. Look for images from this scope early in the New Year!

Again, I'd like to thank Chris for his generosity in providing this wonderful resource to Vancouver

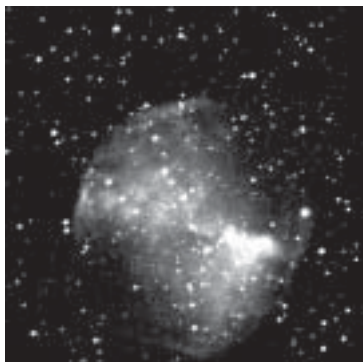
Centre and for giving us the chance to participate in this groundbreaking project. ✨



M33 – The Triangulum Galaxy

the parts Chris had machined to adapt the SBIG camera do not allow enough travel for the Robofocus. Until that is fixed, we won't be able to image properly with that scope. The

This Fall has seen much activity at the observatory. With a return of our Wet (West) Coast weather and dark skies in the early evenings, the number of members interested in attending the regular Tuesday training sessions has in-



M27 – The Dumbbell Nebula

creased.

Attendance at the CGRT regular monthly meetings on the third Tuesday of the month has been helpful in learning the operation of the CAROP equipment. The CAROP equipment has given hands-on experience in the operation of a robotic scope and a better understanding of the entire operation.

Equipment operation at the observatory has been hit-and-miss. At times, we have had success and felt good spending the time to produce the crude images obtained during an evening's session. There have

also been times that the evening has been wasted by equipment malfunction. We have been busy learning what the equipment we have is capable of achieving. An increase in activity at the observatory by any interested members should help to track down some of the equipment gremlins.

The future of the CAROP Observatory was discussed at a recent planning meeting. With the current membership interest, the observatory will not likely be moved soon. The current priority is to provide more and better access to the observatory for all of our mem-



M57 – The Ring Nebula

bership.

Currently, training on the 16" Meade LX200 telescope and the CCD camera are the biggest priorities. We are also working toward having a diversity of activities available for

evening's observations. The office computer already provides an area to do some image processing while the big telescope is in use. Work will begin on clearing up an outdoor site for training in the use of some of our smaller telescopes.

Observing sessions are being posted on our website and any members interested in attending are welcome. Please look under the CAROP pages of the Vancouver Centre website for further information.

While we were away at the summers star parties, two of our members, Mark Eburne and Brett Spratt, managed to get some images of M 27 and M 57 that I was pleased to see.

This month I managed to get images of NGC 7662—the Blue Snowball—and Comet Holmes (17P). Although imaging and processing needs a lot of improvement, these have been a few of our small successes.

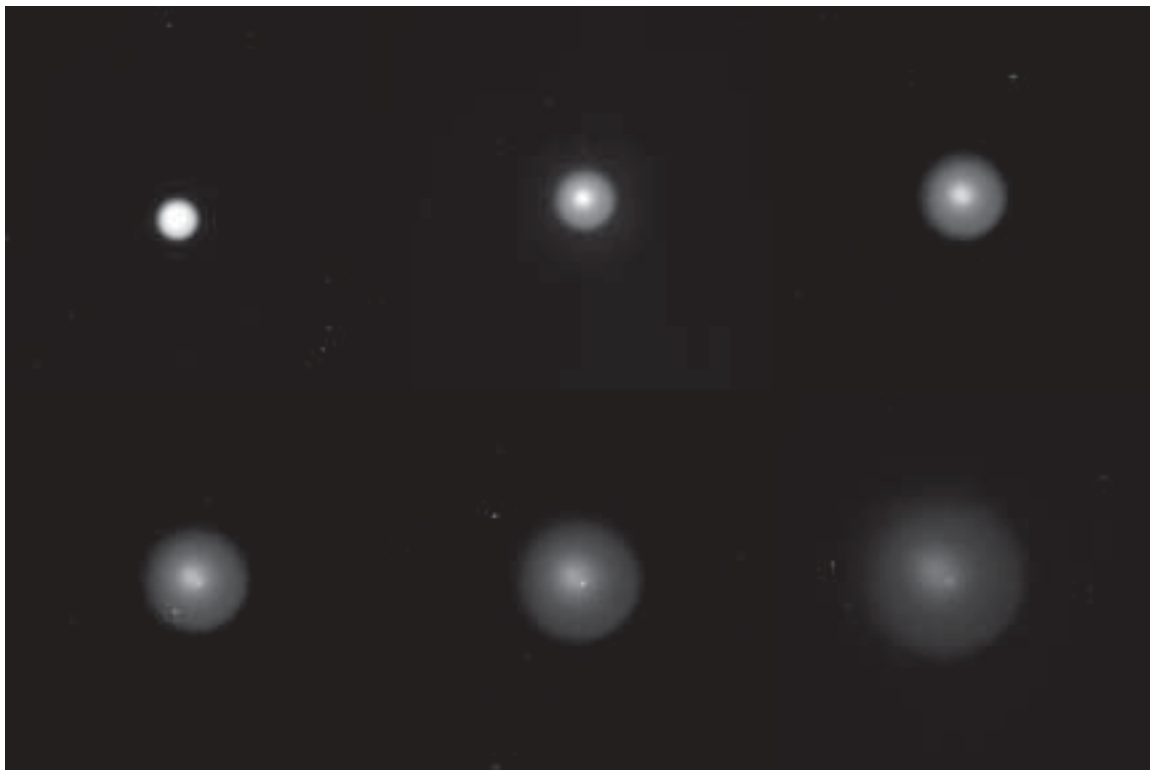
For the month of November, Training meetings will be held each Tuesday evening from 7:00 PM to 10:30 PM for any members interested in the observatory. Please contact me by phone or e-mail to confirm your attendance. ★



Craig Breckenridge
CGRT



Wayne Lyons
CAROp



CGRT images taken on Oct. 25, 26, 27 (top row), 28, 29, 31 (bottom row) through the V filter.



Gordon Farrell

26 October, 2007

Canon Powershot S400
(eyepiece projection)
Celestron C9.25
25mm eyepiece
3x15sec. (stacked)

Proud To Serve Vancouver's Astronomical Community



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