



NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC

VOLUME 2003 ISSUE 4

JULY/AUGUST 2003

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Looking Ahead

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

July 8: Dr. Ingrid Stairs, postdoctoral student at UBC, on "Searching for Radio Pulsars"

Aug 12: Members' Night: Michael Winther on "The Drake Equation"

Next Issue Deadline

Material for the July Nova should be submitted by Monday, Sept. 1, 2003. Please send submissions to:

Gordon Farrell
(gfarrell@shaw.ca)

Where Can I Begin...?

by Craig Breckenridge

First and foremost, I would like to thank the many volunteers who made the 2003 General Assembly the huge success it was. Our crew of almost 50 yellow shirts is to be commended for the delegates could always count of them to be courteous, helpful and responsive. On behalf of all the team leaders, I thank you.

The weekend seems like a blur and that might be just because it was. We had so many events that the attendees could not believe it. According to Rajiv Gupta, our National President, we may have had more events at our GA than at any previous one. We set several new records that future GAs are going to really have to work at in order to beat: the

previous record for attendance was 225 delegates. We had over 250, not including our speakers. We took the Plenary Session to a new level and made it the focal point for the entire Assembly. We gave them their first Dinner Cruise and tours of three telescopes in one day, one of them a five metre liquid mirror. I guess the easiest way

to capture the feeling is to go day by day.

On Thursday, I arrived at the Walter Gage Convention Centre at UBC around 12:00. The first attendees had been here for several days, so I was not surprised to see them. Some of the volunteers were also on hand to start setting up our registration table and getting

GENERAL ASSEMBLY OF THE
ROYAL ASTRONOMICAL SOCIETY OF CANADA
CELEBRATING 100 YEARS OF ROYAL RECOGNITION



VANCOUVER
BRITISH COLUMBIA
JUNE 27 - JUNE 29, 2003

Coming Home

by Marc Verschueren

The last few months here and in my reading, much attention was paid to the history of the very early universe. There were several new results published such as the first information collected by the MAP satellite, the discovery of the polarization of the Cosmic Microwave Background, and new measurements of the density distribution of galaxies in the universe. All this is very interesting and essential for the understanding of where we come from, and tells us something of where we are going. But is also very abstract and technical. The interpretation of these measurements requires at least some understanding of some of the basic theories. Fascinating as it is, it carries us far away from our observations, and observing is the heart of our astronomical lives. It is observing that makes us interested in these abstractions in the first place. We must first find the universe before we can get interested in it.

In the last few weeks there was a refreshing change of course. Dr. Gladman brought us back in our last meeting to the solar system. One would think, with a little bit of arrogance, that we pretty well know everything about the solar system. Now it seems that we really do not know how the outer planets were formed. They must have a different origin than the inner members of the solar family. I had to think that it is interesting to realize that of the

planets discovered so far around other stars, all seem to be of the type of our outer planets. Could we find a rocky planet? Could we recognize it if we saw one? It may be too early at this moment to do this. Planet formation also covers the presence of the Kuiper belt and the Oort cloud, the origin of the comets. Far from being an expert on this, I thought that this was mainly a question of distance—one was farther out than the other. It is clear now that the Kuiper belt fits well with the planetary system as a kind of ring. The Oort cloud is more a chaotic collection of debris ejected by the big planets.

But both give us the comets, so dear to David Levy. We had the privilege to listen to him introducing us to his universe during the last General Assembly. He always likes to come back to the planets and their strange relatives, the comets. We were lucky to listen to him during the cruise around Vancouver Harbour so, while listening to him, we could admire at the same time the beauty of our own planet during the majestic sunset. David H. likes to return from time to time to his earliest telescope and think about his earliest observations. He likes to go home from time to time.

And now there is the coming show put on by Mars. That will bring us very close again to the real world of our neighbours in the universe, the planets. The coming opposition of Mars is not unique but it is the closest in thousands of

years, and will not happen again for a few centuries. Mars will not look all that different in our telescopes from other close encounters but to know that this is such a special occasion makes it even more of a thrilling experience. Let us hope that we have a few nights of the good weather that livened up Levy's talk. Our little part of the solar system is not too reliable in that respect.

We were thinking earlier about the origins of the universe. Now we have returned to our home in it, the planets and the comets and the asteroids. Our home is the latest stage in this long history, from the very hot big bang through this long, long cooling period, to us. The long, long cooling period that makes the complex structures possible that make up our planetary system and the life in it. The cooling connects us with the past. The cooling of the universe made life possible out of the big bang. You could think of us as some kind of a mould growing in a dark, cold cellar. Our planetary world is the frost on the universe. I like to think of it as the icing on the cake. And this is our home. We should never forget to come back to it. ✨

President's Message

Wow, it's over! "GA2003 - 100 Years of Royal Recognition" suddenly arrived and after a very long weekend of frenzied activity, it sailed into the history books of the RASC. This General Assembly raised the bar and it is one which will be remembered for a long time to come. Craig will tell you the details, but as the President and on behalf of the Vancouver Centre, I want to thank all members of the Organizing Committee and the many volunteers who made it such a great success.

Sailed is perhaps a good word for this experience. Craig was our captain who steered us through the sometimes rough seas of the GA, Pomponia was our navigator who stood by the helm with her GA chart to keep us on course, Ron was our purser who kept track of our passengers and cargo and Norman was our liaison officer who made contact with local dignitaries and arranged for the correct protocols. The rest of the volunteers were the friendly crew who always tried to smile and be helpful as we clung to the rigging and tried to make it all look easy. They say "the devil is in the details" and this is where the committee and the volunteers shone. No problem was too small for them to try to solve and they was always did it with a smile and with concern. So again, thank you all so much and well done!

Now, here is a brief reminder

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2003 Vancouver Centre Officers

President

Bill Ronald 604-733-7036
ronaldb@shaw.ca

Vice-President

Nicole van den Elzen 604-501-2656
nicole@deepskyobjects.ca

Secretary

Ron Jerome 604-298-3292
jerome3292@shaw.ca

Treasurer

Marc Verschuere 604-986-1485
marcver@shaw.ca

Librarian

William Fearon 604-939-1895
williamfearon147@hotmail.com

National Representatives

Pomponia Martinez 604-215-8844
pomponia@telus.net

Bob Parry 604-215-8844
robpar@telus.net

Membership

Dan Collier 604-732-6046

Chair, CARO Committee

Bob Parry 604-215-8844

Director of Telescopes

Phil Morris 604-734-8708

Public Relations

Norman Song 604-299-7924
norman_song@telus.net

Speakers

Barry Shanko 604-271-0615
barry.mail@intouch.bc.ca

Merchandising

Doug Montgomery 604-596-7058
moondoug@home.com

Nova Editor

Gordon Farrell 604-734-0326
gfarrell@shaw.ca

Webmaster

Jason Rickerby 604-502-8158
rickerby@dccnet.com

Greeter

Greg Price 604-377-5547
glm-price@telus.net

Trustees

Sally Baker 604-324-3309
Lee Johnson 604-941-5364

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 Tuesday of every month. Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently \$51.00 per year (\$26.00 for persons under 21 years of age) and can be obtained by writing to the Treasurer at the address below. 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, mailed to the address on page 5, or uploaded to SpaceBase™ at 604-473-9358, 59.

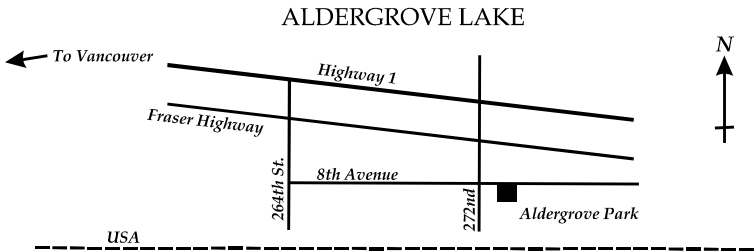
Advertising

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

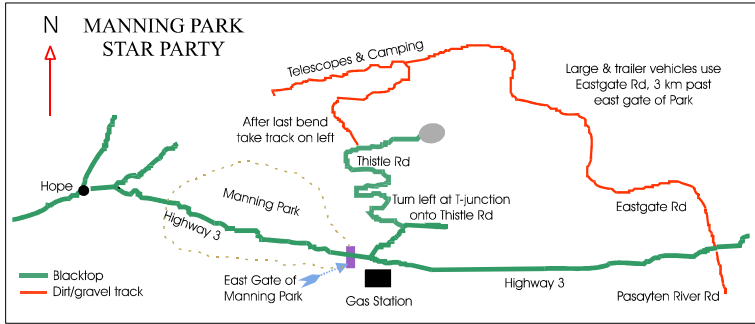
1/2 Page: \$25.00 per issue
Full Page: \$40.00 per issue
Rates are for camera-ready, or electronic files. Payment, by cheque, must accompany ad material. Make cheque payable to: RASC Vancouver Centre.

Observing Sites

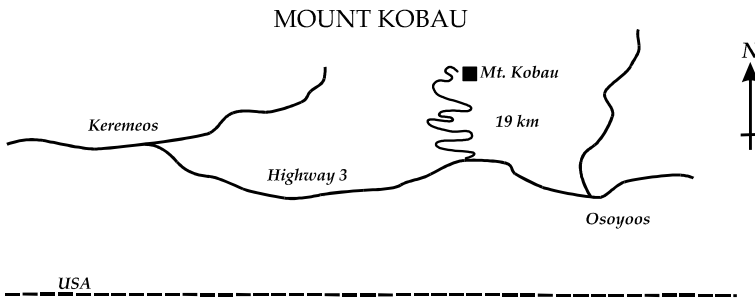


Dale McNabb Observatory in Aldergrove Lake Park (RASC Vancouver Centre's regular viewing site)

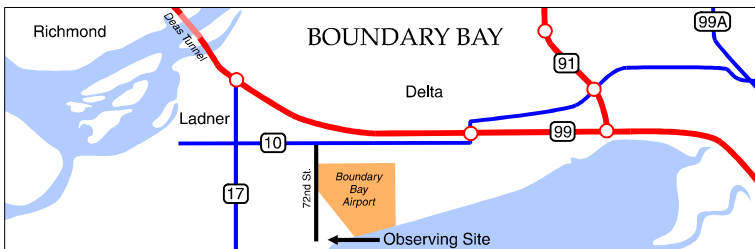
Contact Mike Penndelton (604-888-1505) or Howard Morgan (604-856-9186)



Site of the annual star party organized by the RASC Vancouver Centre



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



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

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of upcoming events over the next two months. First, we have a rare, interesting event occurring at about 23:03 PDT on Thursday, July 17 (6:03 UT, July 18). The 6.4mag star SAO100819 (HIP 68516) will be occulted by the 49 km diameter asteroid 1263 Varsavia. There is a good chance that it can be observed from the Vancouver area. Since it is a very brief event (2.7 sec maximum), it is best observed with recording equipment. In fact, to do true occultation timing, you need a magnified image, a method of video and audio recording and a shortwave radio capable of picking up a WWV time signal. If you have any questions you can contact me or Jeremy Tatum, <universe@uvvm.uvic.ca>, who is coordinating observations from BC.

The Manning Park outreach event is on July 25. Please contact Bob Parry for more details. The Mt. Kobau Star Party runs from July 26 to August 2. On August 12, we are committed to a Perseid meteor shower event at Aldergrove Lake. This is a regular Vancouver Centre meeting night, but Doug Montgomery has agreed to arrange for some of our members to go out there with him to fulfill our commitment to the GVRD. Finally, on August 16 we have arranged an outreach event for the Young Naturalists of Vancouver. It will be held at the Boundary Bay observing site, at the foot of 72nd St. in Delta. ★

ASTROCOMPUTING

SpaceBase™ (604-473-9358,59). Affiliated since 1992 with RASC Vancouver, our link to RASC Net, RASC Members only chat area. Future data distribution hub for CARO Project. Features include latest HST images, current world space news and astronomy programs. Provides a file uploading facility for submitting articles and imagery to Nova.

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.

RASCVC on the Internet

<http://members.shaw.ca/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, \$65 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 Phil Morris, Director of Telescopes in the lobby 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 2 different telescopes per year and use what is left at the end of the meeting anytime. Phil can be reached at 604-734-8708.

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 the Dale McNabb Observatory in the Aldergrove Lake Park, located in Langley, on 8th Avenue, just east of 272nd Street. We are there most clear nights. Contact Mike Pennedlton at 604-888-1505 or Howard Morgan at 604-856-9186.

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

Upcoming Events

July

1 – 2003 General Assembly ends
17 – Occultation of star SAO 100819 by asteroid 1263 Varsavia at approx. 11:03pm
25-26 – Manning Star Party & Manning Outreach
26 – Mt. Kobau Star Party begins

August

2 – Manning Star Party ends
12 – Perseid meteor shower; observing at Aldergrove Lake
25-28 – Mars Week

September

26-27 – Merritt Star Party

October

17-18 – Sidewalk Astronomy 2

December

9 – AGM

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ready for the flood of guests. All went rather smoothly and our yellow shirt brigade performed their various tasks admirably. We had the shuttle drivers meet and go to Avis to pick up the vans they had kindly donated. This is one of the major donations we received and I can not stress enough how much easier it made things to have the vans available. A big thank you to Christine and Hassan for making this possible. The vendors also started to arrive with Dennis and Kim from Heavens and Earth putting on an impressive display. Susie and Sylvia from Pacific Telescope also set up some of their product line and Boyen from Harrison's was on hand as well. The vendors dropped off their donations to the door prize kitty and we set up the 6" short focus refractor donated by Harrison's and Sky Instruments. Thanks go to

Jeanette and Glenn for providing a real scope for the main prize. Pacific Telescope donated a 6" dobsonian for the second prize and Heavens and Earth with Sky Instruments donated a table top 80 mm refractor. This was a pretty impressive line-up of major prizes and is only the beginning of the great donations we received. Thursday night started to wind down and we held the first Hospitality Suite in the Fireside Lounge. I left for home about midnight.

Friday started hectic and continued that way all day. In order to get an opinion of how the talks and workshops went, we will need someone who actually got to see them report; I was too busy scrambling. We had problems on many fronts that needed attention, and to top it off, I left my fanny pack at home and of course thought I had lost it at UBC... I have been told by several of the delegates that they could not

see that anything was going wrong, so in that respect at least we gave good appearances. It was sometime on Friday that we passed the old record for attendance and became the largest General Assembly in history. This was another feather in our cap. The troubles continued on in the background and my wife eventually found my fanny pack. This was a great relief to the volunteers who were spending an inordinate amount of time trying to get me to calm down a bit. The day saw the first two workshops; David Levy and Jack Newton discussing observing techniques and Alan Dyer and Jack Newton discussing photography techniques. We also had the first National Council meeting to deal with. The TRIUMF Tour was next with the vans coming in very handy. Dinner was eventually served and we segued into the Wine and Cheese night with the Murphy

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Night for entertainment. It was nice to see that many members joined in with tales of their mishaps and anecdotes to keep us all amused. We have told Peter Broughton that he must publish the words he wrote to O Canada as they were very fitting. The evening ended about 1:00 for me and it was home to bed.

Saturday morning and it was back to UBC for more fun. The Plenary Session was to the focus of the whole weekend and special plans had been made to ensure this would be the event the Society talks about for years. Our day was made so great by the attendance of the Lieutenant Governor of British Columbia; Her Honour, Iona Camponolo. The VIPs were piped in and Her Honour represented the Queen when she officially opened the General Assembly with a moving speech that was thoroughly enjoyed by all. She was gracious and well spoken and her presence took the General Assembly to a new level of dignity. Two Light Pollution Abatement Awards were presented to the Mayor of Abbotsford and Chief of Calgary Roads. Our first Speaker; Mr. Peter Broughton said a few words about the

manner in which the Society received the rights to say “Royal” and “of Canada” as part of our title. We were honoured to have the Lieutenant Governor join us for our group photo. We then watched an amazing performance by the Strathcona Chinese Dance Society under the tutelage of Mimi Ho before breaking for lunch. The Lieutenant Governor then departed and we were able to change from our suits and ties back into our bright yellow shirts. The organization of the Plenary Session was due largely to the efforts of two people: Pomponia Martinez and Norman Song. Thanks again for the dedication and hard work you performed on behalf of the Centre.

Saturday afternoon continued at its hectic pace with the second of our Guest Speakers, Mr. David Dodge. I am told that David entertained in his usual fashion and that everyone enjoyed his talk very much. David was followed by Mr. Pal Virag who presented a short show that he takes touring to schools and children’s groups on Vancouver Island. Pal has put this show together with some funding from the National Office and we were glad to give them the

opportunity to see the fruits of their support. This was far from the end of the day as the Paper Sessions got underway immediately following Pal’s talk. Unfortunately, some of the Papers went over time a bit and we were not able to have all the talks scheduled presented. We ended Friday night with our Dinner Cruise around the harbour and False Creek. It was on this cruise that Dr. David Levy spoke about the emotion and love that has been generated through time and comes out in our literature and other mediums. The weather was perfect and David spoke with his usual enthusiasm. It was a superb way to cap off the day.

Sunday brought the Annual General Meeting and even though it was thought that it might be quiet, several issues arose that proved to be contentious. My hat off to Rajiv for being able to control the delegates as he did. We followed the AGM with lunch and then had another Workshop on two of the current software packages available; Desktop Universe and Starry Night Pro. While these two packages might seem like they do the same thing, it became apparent quickly that they have two very different functions. All

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Selenography for the Lazy (or, Son of Shoot Itch)

by Dan Collier

Do you ever get the itch to try something silly, like rolling a hand scanner across the face of your computer monitor? Or taping a binocular prism to the front of your camera to sneak a round-the-corner snapshot of your neighbour's dinner party? If so, you are nuts, and afocal lunar photography is for you.

In afocal work, the camera substitutes for the eyeball at the eyepiece. So any camera can be used, as long as you can freeze its focus at (preferably) infinity. You don't have to remove its lens, and the eyepiece stays in the telescope.

SLRs and even some point-and-shoot cameras can be used, but it's really the digital camera that makes this setup interesting.

Afocal Work with Film

Once on the spur of the moment, I made an acceptable afocal shot of the Moon through the MacMillan Space Centre's 45cm Dobsonian. All I did was "smush" my SLR's 28mm f/3.5

lens over the rubber eye ring of the eyepiece, a 32mm Tele Vue Erfle giving 62 \times . Focus was achieved by eyeing the Moon in the viewfinder. I did not record the shutter setting; it was probably 1/60 judging by the weak exposure obtained. The film was ordinary ISO-100



Gibbous Moon (June 29, 2001 8:00pm PDT) Olympus OM-1 with 28 mm, f/3.5 lens and Kodacolor 100. Afocal setup with 17.5" f/4.5 Dobsonian and 32 mm Tele Vue Erfle.

Fujicolor. The Moon spans 17mm on the neg. Doubling the arctangent of half-17 divided by 28mm yields 33.8 $^\circ$, the apparent size of the Moon.

The usual difficulties in this setup are dust in the eyepiece, centring the camera lens, and vignetting. Since the camera lens must not restrict the incoming rays, leave its iris wide open. Later, you can try stopping it down slightly

to reduce glare. Centring is critical, as a quick calculation shows. The scope's exit pupil is $450 / 62 = 7\text{mm}$. The inexpensive 28mm lens used here opens only to an unimpressive f/3.5, equivalent to an aperture of 8mm—only a millimetre to spare.

According to Edmund Scientific's *Photography With Your Telescope*:

- The equivalent focal length of my setup is $28\text{mm} \times 62\text{power} = 1740\text{mm}$.
- The f-ratio is the same as the telescope (f/4.5), as the lens iris is fully open.
- The apparent field of the eyepiece (65 $^\circ$ in Tele Vue's catalogue)

should exceed the FOV of the camera with lens alone (65 $^\circ \times 46^\circ$).

- The projection magnification is $28\text{mm} / 32\text{mm} = 0.875$.

The latter figure violates Edmund's 1.6 rule-of-thumb vignetting limit. What this means is that a 1-1/4" eyepiece would not transmit a large enough image to fill a frame of 35-mm film. But this

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Tele Vue has a 2" barrel. Recalculating the vignetting limit in this proportion (1.25:2) yields unity, so we might expect to lose the corners of the film frame. My photo was indeed marred by shadowing at the Moon's preceding limb. But the primary mirror throws an image of the Moon less than 3/4" in diameter, so the drawtube can't be the cause of the shadow; it was more likely due to camera positioning. According to Edmund, the exit pupil of the eyepiece should lie centred in the iris of the camera lens. I took few pains to assure this.

You can find the best camera position with a simple experiment. Cover the big end of the scope with tissue paper and illuminate the paper as evenly as possible. Pointing the scope into a bright blue sky should work too. Stop the lens down to $f/16$, then adjust the lens-eyepiece spacing until the ground glass appears most evenly illuminated (a similar procedure would apply to digital cameras).

One final point. From similar triangles, the film and primary images should maintain the same proportions as the lens and eyepiece focal lengths (28:32). As the Moon's diameter was 31' 34" that night (June 29, 2001), the primary mirror threw an image 18.3mm across. Reducing that by 28:32 gives 16.1mm for the diameter on the neg, not 17 as measured. Why so? I think the eyepiece got racked in a millimetre or two while I was focusing the

setup. If the eyepiece is racked in from the infinity-focus position, the rays emerge as if they were radiating from an object in the near distance. The camera can be refocused to deal with that, of course. A manipulation of the compound lens equations shows



First quarter Moon near south pole (June 7, 2003 10:03 PM PDT). Fuji 2.4 megapixel digital camera at full zoom, automatic mode, 1280x960 (medium compression). Afocal setup with same telescope and eyepiece as first image.

that the image on the film will indeed be enlarged.

Aspects of Digital Afocal Work

I used a borrowed Fuji FinePix 4700 Zoom with 2.4 million pixels. These digital cameras are great but they have definite limitations. For instance, you may not have enough control

over exposure, even in manual mode. In particular, the camera may overexpose planets because the camera "sees" only a dark sky. Thus my attempt to image Jupiter failed (yes, I was in spot mode). Setting the EV compensation to -1.5 didn't help, and inserting a neutral density filter only lengthened the exposure.

The Moon at first quarter is an excellent target as far as exposure is concerned because it combines tones, shadows and highlights much as Earth scenes do. Moreover, it doesn't matter that the Moon reflects less than 10% of the light falling on it; the camera will treat it as if its reflectance were 18%, the same as the average Earth scene (if the Moon is much smaller than the frame, use spot mode). You will quickly discover that the range in surface brightness from limb to terminator is tricky to capture. Film is no different. If you expose the limb correctly, your terminator goes feathery. The Fuji settled on exposures that rendered the tones reasonably well, and the feathering is not noticeable—unless you look up the terminator position in an almanac.

Focusing is critical, as all people with the shoot-itch know. True, you won't waste film on poorly focused exposures. But a digital camera may not allow you to examine the image closely enough to focus it properly. The FP4700's LCD has only 170,000 pixels, a resolution penalty of 4 to 1 that effectively restricts me to

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trial-and-error.

The typical digital lens is scaled down from an SLR lens, hence the aperture tends to be smaller for a given f/ rating. Centring is more difficult, and an eyepiece that works with an SLR may vignette with a digital. A number of aids are marketed to help you here.

If you behave yourself *very* well this year, Santa may bring you a camera with a filter thread. You can use this thread to screw on a dedicated eyepiece like the one sold by www.scopetrix.com

The Fuji doesn't have a filter thread, so I coupled it to the Tele Vue eyepiece using the device illustrated. It was assembled

from Handy-Angle and a pier clamp from an old Japanese clock drive. Wasn't pretty—in the dark, it looks like a medieval torture device—but it worked. When powered on, the camera's default zoom setting (SLR equivalent 55mm) produced some vignetting which helped me centre the camera. Zooming generally reduces it.

The hardware for mounting

the camera has to be solid. It shouldn't sag as the telescope moves, nor shake in the wind. The ideal mount would have vernier motions to help with centring the camera. Mine doesn't; a serious hindrance. To reduce shake I use the self-timer. With an untracked telescope, you have to point the telescope to one side to ensure the

brightness, a clock drive is almost mandatory for them.

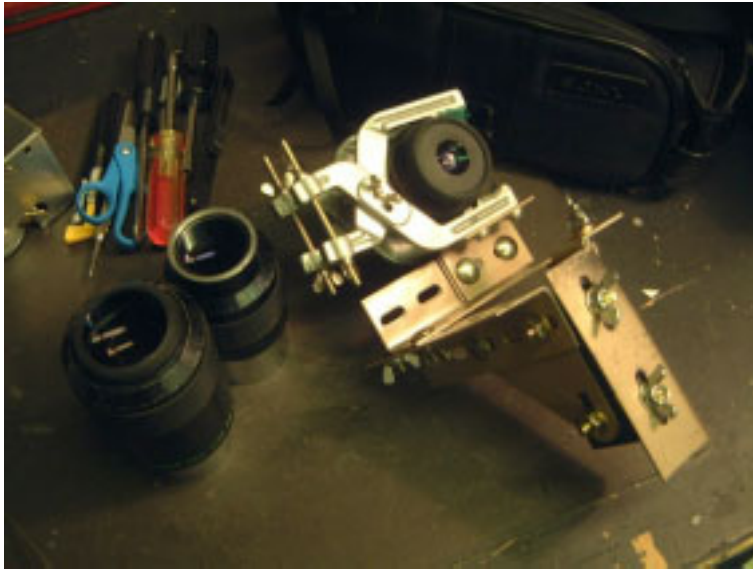
Take care when spacing the camera before the eyepiece. The lens on this camera pops out nearly an inch when I turn it on! Fortunately, the Tele Vue's eye hole is large, and the lens nestles itself lovingly therein. I also note that the axis of the camera lens is

offset by nearly a millimetre inside its housing (when buying a camera with a filter thread, remember to check whether the thread is centred on the lens axis).

Oh yeah—and the night I made the digital images had just awful seeing, 2 to 3 on a scale of 10. Even so, the quality obtained was surprisingly good. But the filmed image is

as good or better. It caught some pretty fair seeing, and I think I got a better focus on it too.

*Some of my lunar images have been posted on the Centre's web site. Sign in at www.pcis.com/rascvan, click on "Images," then "ByAuthor." **



Eyepiece clamp used for the afocal photography of the lunar images in this article

object is centred when the timer runs out.

The Earth's rotation is negligible during the short exposures used in lunar work. For all intents and purposes you can take it as 15 arc-sec per second. Exposures of 1/15 second or faster will be trailed by less than the span of the Airy disk in an 8" scope. Jupiter and Saturn, being fainter than the Moon in terms of surface

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Delegates were provided with demo copies of the software to explore at their leisure. Our next Speaker was Mr. Eric Dunn. Eric entertained the delegates with his wit and story telling and I have been assured by several of the representatives from back east that they will be wanting him to speak at their Centres. Eric was followed by our Keynote Speaker for the Ruth Northcott Lecture, Dr. Gordon Walker. Gordon supplied the meat and potatoes for the scientists in the audience with his discussion of spectroscopy and some of the discoveries made through the use of these techniques. After Gordon's lecture was complete it was time for the Dinner Banquet. It was here that the other awards given out by the Society were presented by Dr. Bob Garrison and Dr. Gupta. The award presentations were followed by a talk by Alan Dyer that proved to be everything I had asked him to do. I had asked Alan to show us some of that great "Eye Candy" (treats

for our eyes) that Alan captures so ably. After an hour of some amazing photographs, Alan stepped down from the stage and we drew for the door prizes. The main door prize, the 6" refractor, was won by Dr. Bob Nelson of Prince George who has promised to use the scope to further public education.

While most people would have been satisfied then, we weren't. We held a tour of the CAROp facility and the UBC Liquid Mirror Telescope in Maple Ridge on Monday. We then returned to the H.R. MacMillan Space Centre for a hot dog lunch and two planetarium shows. The delegates were then driven back to UBC for the last dinner of the GA. What a relief it was to sit down to a turkey dinner and just relax. Of course Tuesday was spent running people out to the airport so when I finally got home Tuesday afternoon, I was ready to sit down and enjoy a beer or two.

When I first suggested that

we hold the General Assembly back in the spring of 2000, I had no idea of the amount of work it would take on the part of many, many people. My intention was to have Vancouver Centre hold the greatest General Assembly that the Society has yet seen. I wanted to honour the 100th anniversary of the receipt of the Royal Charter in a manner that was dignified and respectable. I also wanted to do this for our National President; to give him something special during his tenure and for him to be proud it came from his home Centre.

My heartfelt thanks to all the members who gave up so much of their time to allow me to have a dream come true.

– Craig Breckenridge
Past President and 2003
General Assembly Chair ★

**Look for more extensive 2003 General Assembly coverage in the
September issue of NOVA**

Astronomy Day Gallery





In Memorium: Anne B. Underhill

Vancouver Centre member Anne B. Underhill passed away peacefully on July 3, 2003. Anne was born in Vancouver, June 12, 1920. After graduating from Prince of Wales High School, Anne continued her education at UBC where she received a BA (Honours) degree in Chemistry

and Physics and an MA in Physics and Mathematics before going on to the University of Chicago where she earned a Ph.D. in Astrophysics. Anne had a distinguished career as a professor of Astrophysics in Utrecht, The Netherlands, and as a scientist with the Goddard Flight Center in the

United States and France. Upon retirement, Anne returned to Vancouver where she became an Honorary Professor in the Department of Geophysics and Astronomy at UBC and received an honorary degree, Doctor of Science. ✨

Astronomy Day Gallery (cont'd)



2003 General Assembly Gallery



Saturday night's dinner cruise



David Levy and Jack Newton

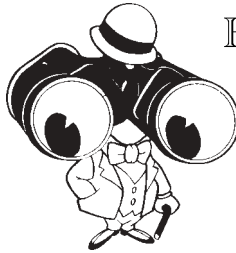


The Strathcona Chinese Dance Society with Her Honour, Lt. Governor Iona Camponolo and RASC President, Rajiv Gupta

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