



# NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC

VOLUME 2004 ISSUE 4

JULY/AUGUST 2004

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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 13:** Anna Sajina of UBC's Astronomy Dept.: "Infrared Astronomy and the New Spitzer Space Telescope."

**Aug. 10:** Jaymie Matthews of UBC and MOST Mission Scientist: "Unpacking a Suitcase Full of Science: First Results from the MOST Space Telescope."

## Next Issue Deadline

Material for the September Nova should be submitted by Monday, Sept. 6, 2004. Please send submissions to:

Gordon Farrell  
(gfarrell@shaw.ca)

## Newfoundland 2004 GA

by Bill Ronald

The General Assembly in Newfoundland was well attended by members of the Vancouver Centre. Four Council members—Ron Jerome, Doug Montgomery, Bob Parry, and Bill Ronald—and our outgoing National President, Rajiv Gupta, made the trip to "The Rock." Bob and Doug will give you more details about the results from the GA, including the \$6 fee increase.

I will just mention now that the Vancouver Council has voted to reduce the impact of this increase by decreasing our surcharge from \$7 to \$5. This means that the Vancouver Centre membership has been raised to just \$55, instead of \$57. This decision was made

because our predicted budget costs are covered by our present revenues and the \$6 rise includes a \$2.40 return per member to our Centre. In other words, we don't

currently need the fee increase locally; the increased costs are at the National level. However, because a youth membership loses money at the National level and has been additionally subsidized by our Centre, we have voted to set our youth fee at the same level as National's. In other words, it will increase

from \$26 (\$27.50 - \$1.50) to the new National level of \$31.25. Hopefully, this will not be a hardship for anyone.



Fred Smith presents the Winthrop memorial plaque

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## The Beautiful Planet

by Marc Verschueren

Saturn is a beautiful planet. Most experienced observers, even after years of practice, cannot resist the temptation of looking at it for at least a few minutes when there is an opportunity. The parade of the jewels of the Solar System continues this summer. Last year it was Mars. This year, Spring offered us the very rare spectacle of a transit of Venus. Not all of us were fortunate enough to see it, but the Internet was a great help—as good as being there. And now Cassini-Huygens has arrived at its destination. I regularly checked its progress on the website, but that checking started 7 years ago. Cassini approached its target very, very, slowly—this checking required patience. After leaving the Earth, Cassini completed two orbits around the Sun at a distance approximately like the Earth's or Venus'. It approached both planets closely, and this approach set it on a path in the direction of Saturn. In the popular press, this is described as a "slingshot effect,"

as if the planet gives an extra push to the space probe. This is of course not so. I suppose that some of NASA's press terminology adds to the spread of this concept. When the space vehicle leaves the Earth, it has already all the energy which it is going to get, apart from some very minor corrections to the orbit effected by on board engines. When the space vehicle leaves the Earth, it will have considerable potential energy with respect to a planet far away. When it moves in the direction of that planet, it will fall towards it and gain speed. This extra speed can change the orbit of the space ship around the sun. Cassini ended up with an elongated ellipse which could bring it near Saturn seven years later.

I am not a fervent fan of space exploration, but we must admire this masterpiece of space technology that brought Cassini to exactly the right position so that it could move in between the F-ring and the G-ring and than begin its complicated insertion into its orbit

around Saturn. It is first an elongated ellipse which will become more circular after the launch of the Titan probe, Huygens. I will be just as fascinated as anybody with the images from Saturn. The big moon, Titan, has already drawn a lot of attention. We have seen photographs that give actually some detail on the surface of the big moon. Let us not get carried away too fast and with too much hype. The press talks already about solving the mystery of life on Earth by what we see on Titan. That is a little bit of a broad conclusion at this moment. The general press always has the tendency to lay it on heavily, but the specialized astronomy periodicals also lean a little bit to the sensational. Such statements are in general not true or at least they are strongly exaggerated and they undermine the belief we can have in the quality the real discoveries.

But the major interest must be in the rings. They are by far the

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## President's Message

This is often a limited observing time for many of us because the long days mean staying up very late to experience dark skies. For those that work, it can be a real sacrifice to enjoy this part of our hobby. Outreach activities, such as the Fraser River Festival where we observe the Sun and talk to the public, can be an enjoyable substitute. It also has the advantage of not being bothered by light pollution; the only problem being occasional cloud pollution, which we can't do much about. I have been away for the last month so unfortunately, for the first time in many years, I missed the Fraser River Festival. Thanks to the members who turned out and to the Council members who organized it this year, particularly Ron Jerome who filled in for me.

I am leaving town again, to attend the General Assembly in Newfoundland, so I will have to miss another event, the SCI101 in cooperation with UBC and the Planetarium, at the GMSO on June 28. I am writing this message before the event, so thanks in advance for those who turn out with their telescopes. Finally, another upcoming event to remember is the Perseid Star Party at Aldergrove Lake on the evening of August 12.

Going back to the topic of light pollution, I would like to thank Chris Dolman and the LPA Committee for preparing displays

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## 2004 Vancouver Centre Officers

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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 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.

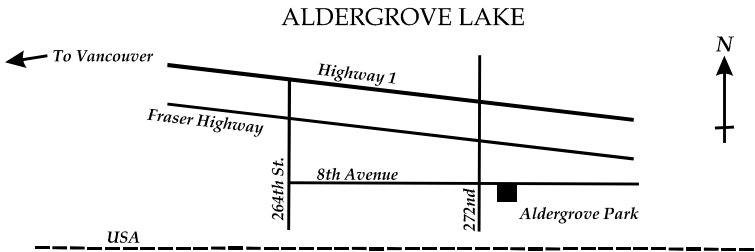
## Advertising

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

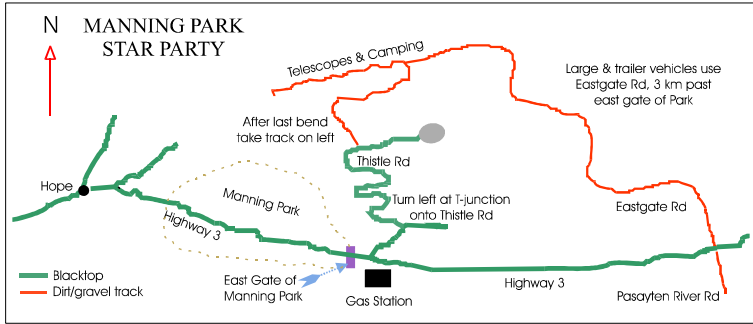
1/2 Page: \$25.00 per issue  
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# Observing Sites

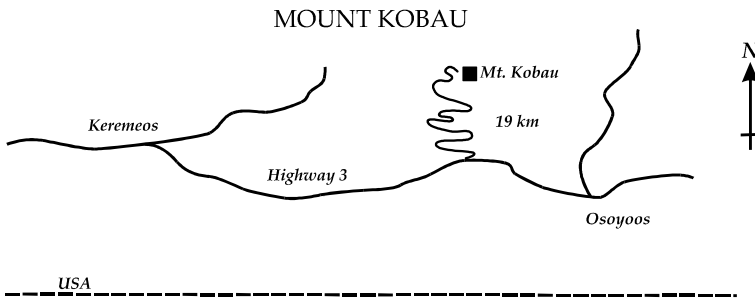


Dale McNabb Observatory in Aldergrove Lake Park (RASC Vancouver Centre's regular viewing site)

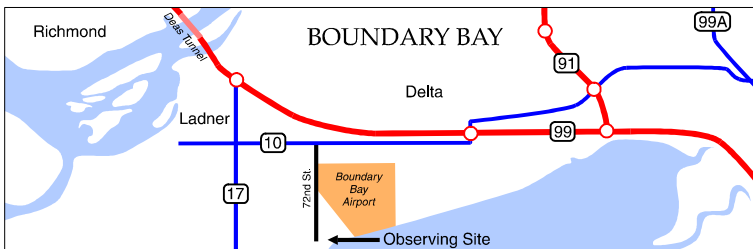
Contact Mike Penndelton (604-888-1505) or Howard Morgan (604-856-9186)



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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most striking feature of the planet and they raise many, many questions. I would have assumed that specialists in celestial mechanics had a very good idea of how this ring system works. Not so. The origin or age of the system is not clear. There seems to be a consensus that the ring system cannot be as old as the planet because over such a long period of time the rings would have eroded much more. This is so because of the internal collisions within the rings and because of the torques to which the rings are subject. So the rings must have an origin? A collision between asteroids? Possibly, but one must then describe the mechanics of all the debris of the collision ending up with coherent velocities nicely going around Saturn in a very symmetric set of rings.

The stability of the rings is an unsolved problem. We are used to descriptions of the origin of the solar system where one starts with a disk around the Sun. The material in the disk will start clustering around spots with a somewhat higher density than the average. Once that process starts, it is easy to understand that such proto-planets will eventually sweep up most of the material in the disk. So, why does such a mechanism not work in the Saturn rings? Or, at least, why is such a mechanism sufficiently repressed such as to give the rings a long life time. We do not know how stable or unstable the rings are. It is

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## 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

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### July

17 – Manning Outreach.  
17-18 – Manning Park Star Party.  
24-31 – SOAR.

### August

12/13 – Perseid Meteor Shower

at Aldergrove Lake.  
14-21 – Mt. Kobau Star Party.

### September

10-12 – Fall Merritt Star Quest.  
25/26 – Sidewalk Astronomy.

### October

9/10 – Sidewalk Astronomy (alternate date).

### December

14 – AGM

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possible that they are slowly disintegrating, that they have a finite life time. The new images of the ring system should help us understand at least a little bit better what mechanisms are at work here. It was already known that the small shepherd moons play a vital role in keeping the system in place. And maybe there will be more such small moons, not visible to us with earth bound instruments.

But the first photos also clearly showed density waves. So there could be a complex mechanism at work here with the interaction between the rings as a whole, the moons and density waves. To really fully understand the mechanical theory that eventually will be developed one would have to dig deep into celestial mechanics. Most of us have not the time to do this. One can only follow that closely one or two

subjects. But I do hope there will be enough articles to read to get at least a good, more intuitive description of this major and fascinating mystery of the solar system.

The rings are a display of a precarious, delicate balance. They look as fragile as porcelain. They give a delicate beauty to the magnificent planet, the masterpiece of our solar system. A beautiful planet. ★

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for Astronomy Day and the Fraser River Festival, and for Chris's attendance at a Vancouver sports-lighting proposal meeting. On my recent trip to Cyprus to tape, photograph and time the Transit of Venus, I got a real eye-opener into the effects of uncontrolled lighting. We chose to go to Cyprus because it has wonderful historic sites, we hadn't been there and I remembered descriptions, some years ago, of scenic villages with beautiful dark skies. I had packed along an 80mm ED f/7.5 refractor which I couldn't wait to turn loose on those southern beauties (celestial of course). Our flight was a late one, arriving in Larnaka

at 2:30 AM, so it was with great dismay that I looked out the window as we flew along the south coast from Paphos to Larnaka and saw that it was outlined by thousands of lights. Scenic, rustic Cyprus has become a holiday destination and it seems like the whole coast is becoming a wall of luxury hotels. Needless to say, when I looked at the sky from the "quaint, scenic fishing village" of Kato Paphos, the only celestial objects that I could pick out were Jupiter and Arcturus. When I used my 10x50 binoculars, I think I found the Big Dipper.

This experience made the activities of our LPA Committee become much more important for

me. Cyprus produces its electricity mainly with Diesel generators so you would think that energy conservation would be high on their agenda. However, tourism brings in the big dollars and that is where they are placing the emphasis. Imagine how the Lower Mainland, with its potential access to cheaper energy sources, might end up if it was decided that it tourism and entertainment must become the primary industries at the expense of our dark skies. At the moment, I still have mag 4 to 4.5 skies from my back deck, which faces the UBC woods, but for how much longer?

– Bill Ronald ★

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## Venus Transit from Arabia

by Andy Moore

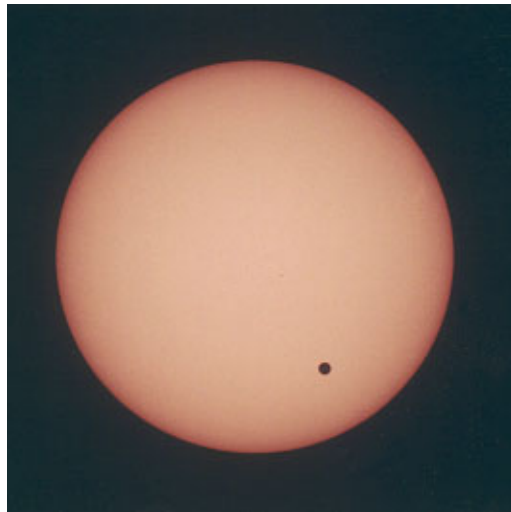
I'm currently living in Ras Al Khaimah in the United Arab Emirates and had the ideal viewing location for this twice in a lifetime event. Like many of us, I was looking forward to June 8th with great anticipation. The day dawned as it does everyday—clear and warm. I sent an email around the college advising anyone interested to come by between 9:30 and

14:30. I loaded in 100 ASA and set up my Nikon F4 with a 500 mm reflector and 2X on a sturdy tripod just outside my office. Over the next 5 hours, I took about 36 shots at different exposures recording Venus' slow movement; the transit took place at the perfect time. The Sun was well up when the transit began and continued right overhead and high into the West before finishing. It was 38 degrees

at high noon, the mid-point of the transit. The students gasped as they spotted the black spot on the Sun. Celestial events are normally connected to the beginning and end of religious holidays so many felt there must be some kind of deeper meaning to this apparition. All in all, it was an amazing sight to behold... looking forward now to 2012! \*



Venus transit from second contact to mid transit, by Andy Moore



Venus mid-transit,  
by Bill Ronald

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The theme of the 2004 GA was a celebration of the Transit of Venus. The Helen Sawyer Hogg Lecture was given by Dr. Sara Schechner of Harvard University, who described in



great detail the 1761 measurements made at St. John's, Newfoundland, by John Winthrop of Harvard College in the Massachusetts Bay Colony. Following the lecture, we all tramped out into the dark to the site where a memorial plaque will be mounted. In a small ceremony,

Fred Smith and Peter Broughton presented the plaque, donated by the RASC, to the Memorial University of Newfoundland.

The Winthrop plaque presentation was not the only ceremony

conducted at this GA. All of our members had to undergo the ceremony of the "Screech-

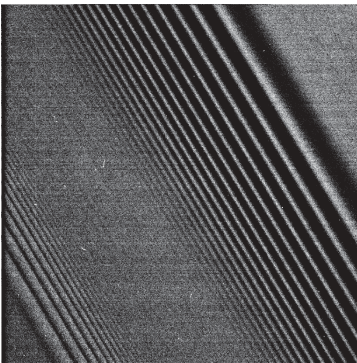


in," where they were made honorary Newfoundlanders, or "Newfs" as the Grand Master of Ceremonies, Gary Dymond, called them. I think for some, this was the highlight of the GA. In particular, Bob took wholeheartedly to the idea of screech [photo at left], but I have to admit that Raj [photo below] looked a bit apprehensive when Gary made him sit upon the "throne." In all, this was another great GA and I recommend that

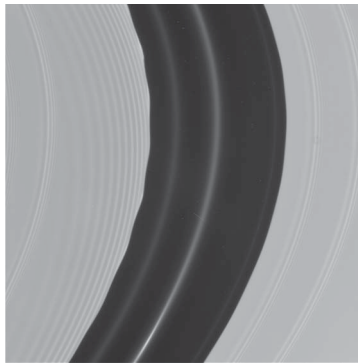
you start planning your attendance at GA 2005, which will be just next door in Kelowna. ✪

## Cassini Images of Saturn's Rings

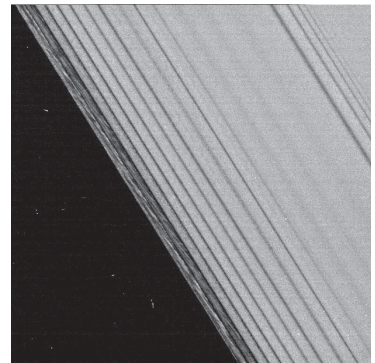
All images: NASA/JPL/Space Science Institute



Density waves in the A ring (290m per pixel)



Encke gap, showing scalloped inner edge (1km per pixel)



Outer edge of the Encke gap (270m per pixel)



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# RASC GA 2004 Report

by Bob Parry

This will be a rather brief report of the highlights and decisions made at this year's GA in St. John's NF. There was one decision to be made at the GA this year that affects everyone, and that of course was the \$6.00 increase to the annual dues. There was some debate on this, however most of it had been done at previous meetings. The end result was that the increase passed overwhelmingly. This means that the cost of membership will increase from \$44 + local surcharge to \$50 + surcharge. For Vancouver Centre, which currently has a membership cost of \$51, the cost will increase. This has been discussed on the local council and Bill will have an

announcement at this month's members meeting.

The other proposal to vote on was the change in the

was not an enforced rule until recently. However, National has decided to push the issue. National Reps from across the country wanted changes to this policy and a proposal of three two-year terms was proposed. This would allow Reps to be on Council for up to 6 years total. As it takes about three years to get to know the ropes at National, this seems reasonable. The motion was carried.

There will be a more complete report in the future as there is not enough time before deadline of the Nova to allow more time to write a report.

I want to say that the organizing committee for the St. John's Centre did a superb job.

Garry Dymond was a fantastic host and the head of the organizing committee. Yes, that

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National Reps' terms of office. They currently are a maximum of three one-year terms. This

continued from page 10

is Garry in the slicker and

Sou'Wester on. His "award" ceremony at Murphy Night was

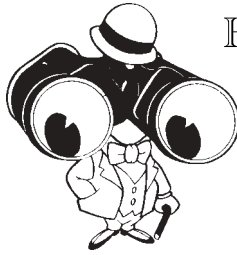
the highlight of the GA for me. ✨



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