



# NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC

VOLUME 2001 ISSUE 6

NOVEMBER/DECEMBER 2001

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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.

**November:** Dr. Chris Waltham of the UBC Physics dept. and member of the SNO neutrino detector on the early results.

**December:** AGM followed by Dr. John MacDonald, co-founder and President Emeritus, MacDonald-Dettwiler and Assoc., on "How the Canadian Space Industry was stolen by Western Canada."

**January:** Andrew Chaikin, author of *A Man on the Moon*.

## Next Issue Deadline

Material for the January Nova should be submitted by Monday, Dec. 31, 2002. Please send submissions to:

Gordon Farrell (gfarrell@shaw.ca)  
or Bob Parry (robpar@ballard.com)

## 2001 Leonids

by Jason Rickerby

This year's Leonids are predicted to reach peak activity at around 2:00am and 10:00am PST, Sunday November 18. Leo will be rising off the eastern horizon around 11:00pm on the 17th. The new moon is on the 15th, so we shouldn't have any problem with moon glow. The professional recommendation is to get up early; don't stay up late to see this year's show.

Historically on November 17/18 there is a 70% probability of precipitation in Vancouver. In the last 3 years the weather has been:

1998: Rain, 5.6C

1999: Mostly Cloudy, 7C

2000: Overcast, 0.5C

Weather permitting, if you do want to get out, several local sites are frequented by Vancouver Centre members. These sites are Aldergrove Lake, Cypress Mountain, Boundary Bay, and occasionally the CARO site in Maple Ridge. Considering the nature of this event, maximum horizons are probably desirable, which eliminates CARO.

The characteristics of the sites are as follows (coordinates in Degrees, Minutes, Seconds):

### Cypress Mountain, upper parking lot

49 22' 40" -123 11' 38"

- Limited nighttime access.
- Good, dark North sky, but somewhat restricted horizons due to trees and mountains.
- Sky glow from the Southeast, South, Southwest.
- If you wander around, you might find an outhouse.

### Boundary Bay, very south end of 72nd Street, Delta

49 03' 34" -123 01' 27"

- Unrestricted access at any time.
- Good dark South and Southwest sky with few obstructions on the horizon in any direction.
- Sky glow to the North and East.
- Within a 5-minute drive there are washrooms available 24 hours at the gas stations on the North side of the intersection of Highway 99 and Highway 10 (also good for late night drinks and snacks!).

### Aldergrove Lake, 264th Street and 8th Avenue, enter off 8th Avenue just east of 264th

49 00' 54" -122 28' 07"

- Evening access restricted to key holders (RASC Vancouver Centre has a key).
- From the parking lot skies are reasonably dark, but there are many trees inhibiting the view of the horizon in any direction.
- From the field the horizons are better, but sky glow is apparent in all directions.

### Park washrooms are probably locked. CARO, UBC Malcolm Knapp Research Forest, Maple Ridge

49 15' 51" -122 34' 22"

- To access, please contact a member of the CARO Committee.
- North and East skies are reasonably dark, but there are many trees inhibiting the view of the horizon in any direction.
- Sky Glow from the South and West.
- Out house located at entrance of Forest, Northeast of the gate (there is a kettle in the A.O.M.O. but bring your own water).
- 120VAC is available from the A.O.M.O. building.

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## A Universe of Darkness

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by Marc Verschueren

A few weeks ago, the Physics and Astronomy Department at UBC presented a debate between Michael Turner from the University of Chicago and Craig Hogan of the University of Washington about dark energy. It was actually not much of a debate, notwithstanding that the presentations were very good and sometimes entertaining. There are two dark elements drifting around in astronomy today: dark matter and dark energy. The term “dark matter” is not new in astronomy. It goes back more than 60 years to the days of Zwicky, but it is still a little bit confusing to some in the world of amateur astronomy. And then, in the last few years, one throws in a new mysterious phenomenon: dark energy.

The idea of an unseen mass was first introduced by Zwicky to explain the behaviour of the members of the Coma cluster. The distances and relative velocities of the members of the cluster seemed to point to the presence of a mass much larger than what was visible. In those days, the idea seemed to be too far fetched and not much attention was given to it. However, in the seventies there was another strong reason to suspect the presence of this dark matter. Many galaxies, including our own, contain hydrogen gas, roughly in the form of disks coinciding more or less with the disk of the galaxy. It turned out, however, that the movement of that disk around the centre of the galaxy could not be explained by the gravitational effect of the mass of the components of the galaxy itself. This led to the hypothesis that galaxies are surrounded by large halos of dark mass. Many possible explanations have been proposed about the nature of this mass such as black holes and

brown dwarfs (star-like objects that do not have enough mass to ignite hydrogen fusion). So far, no firm, well-based model exists. It is of course very difficult to detect the presence of this mass. Essentially, it has to be done by its gravitational effect. Very promising in this regard is the effort to try to observe gravitational lensing by unseen objects. So, dark matter refers basically to matter that should be there, but does not produce radiation visible to us, to explain the dynamics of galaxies themselves and clusters of galaxies.

Of course dark matter should also have an effect on the behaviour of the universe as a whole, just like any other mass. The total mass-energy in the universe determines the expansion of the universe and whether it will stop expanding and collapse or expand forever. We also are faced with the problem that the universe seems to be almost flat. This also requires more mass than is visible to us. Here, however, elementary particles such as neutrinos could be part of the answer. So, if we look at the measurements of the expansion of the universe we expect to see a universe with a slowing expansion rate, depending on the amount of mass-energy in it, visible and dark. And then the mystery became more complicated. It appears now that the expansion is actually accelerating. Astronomers are more and more confident to make this statement. It is based on the distances to very distant galaxies as determined by measuring the light emitted by exploding supernovae. In the context of general relativity, this phenomenon cannot be explained by the total mass-energy of the universe. So not only is there the mystery of the missing mass; there is something else now that has to explain the accelerating expansion.

This something else, and so far nobody knows what is, has been called: dark energy. In the Einstein equations, there has to be a term, which is equivalent to an energy, which makes this speeding up happen. At this moment, there is no explanation for the nature of this term but there are some candidates, such as the self-energy of space. Or it requires a new formulation of basic physics. This has become a major question in today's astronomy and physics. This dark energy probably represents a new, so far unknown, characteristic of our universe. It could have a very profound effect of our understanding of what the universe is actually made of.

There are now a few different kinds of matter we know of or we suspect exist. There seems to be a hierarchy in where they are important. The so-called debate mentioned above summed it up nicely: It is all a matter of scale. Ordinary matter is what we and our immediate environment are made of. It is the whole family of atomic and subatomic particles that create atoms and chemistry and rocks and living beings. Most chemical elements are formed in stars and ended up in our everyday world after star explosions. We are made, like Carl Sagan said, of stardust. Dark matter is important at the scale of galaxies and clusters of galaxies. And now the new dark energy affects the universe as a whole. Somebody said we are made of stardust, but the universe is not. Dark energy is the last step, so far, in the voyage of discovery which led us from the planets and the solar system to galaxies and the whole universe. ★

## President's Message

It's that time of year again. The skies over the Lower Mainland turn to a nasty grey colour and we are most likely to set rainfall records for the rest of the country. There are some good things about this though... we don't have 5 feet of snow on our streets and it isn't -35 degrees Celsius. One of the things that always stuck in my mind when I was a child living in the wilds of Princeton was the fact that we could come down to Vancouver for Christmas with my Grandparents and there would be green grass. The impression that made on me was part of my decision to live here once I was older. The fact that we live in one of the most beautiful areas in the world has grown upon me gradually.

At the end of June in 2003, Vancouver Centre will get to show off some of the wonder that we sometimes take for granted. When we host the 2003 General Assembly, we will experience a myriad of feelings all mixed in with a sense of pride in a job well done. The GA Committee has got quite a bit done to this point but as the time approaches we will need more and more volunteers to help out. If we have many helping hands the work will not be as tedious and the ideas from many heads will ensure a great event for all. Please consider joining the committee—we have a job that you can do.

As our own general meeting approaches, we come to that time of year when the council members prepare their reports for our membership and filing with Victoria and the National Office. While it is a busy time, we still find time to discuss pressing issues within the society at large. It is by the fine representation of the council members over the past year that we have helped Vancouver Centre move forward. We are members of one of the most active Centres within the society and are often looked towards for our opinion on some topic. With this being said please look elsewhere in this issue for the proposed slate for Centre council for next year. This slate is by no means closed so any member who

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### Trustee, CARO

Tony Overton Deceased

## Web Site

<http://hrmacmillanspacecentre.com/fr11.htm> and follow the link to Astronomy Clubs  
or <http://www.rasc.ca/vancouver>.

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

## 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 \$49.00 per year (\$25.00 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 below, 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.

## National Representatives' Report

by Bob Parry and Pomponia Martinez

National Committee Meeting 01/10/27

The final National Committee meeting of 2001 promised to be a lively affair because of the interest generated by the Decoupling Proposal. The meeting started with a report from President Bob Garrison. He congratulated the Saskatchewan Star Party and Vance Petriew's discovery of a comet. This was a first for a star party in Canada. Bob has toured the prairie Centres as part of his tour of all the centres during his term. He was surprised that some centres seemed not to be informed of the decoupling issue. This view that some centres are not aware of the decoupling issue has been brought up on the Rascals mail group with some very emotional responses regarding how National Reps do their jobs.

The two VP's did not have reports for council. Peter Jedike did mention that Canadians have been becoming involved with asteroid monitoring. There were a number of people that received their Messier Report and one that received Finest NGC Awards (I did not get their names but will try before NOVA).

The membership system is working well with approximately 4700 members' Handbooks and the Journal mailed in October. The publication committee is approaching Chapter's and retailers in the US to carry the Observers Handbook and Calendar. The one problem with the calendar is that our to schedules do not match very well. The committee is trying to find other sources to sell the Handbook including University book stores.

All Centre year end reports have to be in by the end of January this year in order to get all the year end reports done in time for the GA which is early this year (May long weekend).

The revenues and expenses of the Society are in line with expectations. There was discussion regarding ex-

penses but the Club seems to be sound financially, with an expectation that anticipated revenues from publication sales will come in the last two months of the year.

Calgary withdrew its Special Grant application request presentation as their representative would not be able to make the trip but will make their request at the January meeting. This brought up a report by Randy Attwood regarding issuing of Special Grants. The current feeling is that there are not enough guidelines or policy. This results in a sort of ad hoc arrangement. The proposals are:

- 1) Increase fairness by having more structure.
- 2) Require that proposals be received by Dec. 31<sup>st</sup> for disbursement in the following year.
- 3) Finance committee to manage Special Grants.
- 4) A maximum of \$5,000 per grant.
- 5) A minimum of 5 years between applications of further grants.
- 6) Fixed fund budgeted for in the overall budget.
- 7) Michael Watson proposed that funding favour smaller centres that have less opportunity for fund raising.

The Publication committee reported on the marketing efforts to date, which include approaching Chapters to distribute the Calendar. This looks promising, however their schedule and ours are not compatible at this time. The E-Store that started last fall or earlier this year—I'm not 100% certain of the date—has been a success with the handling of \$8,124 in transactions in the past 1½ months. These included membership renewals and calendar and Handbook sales. The RASC has started to advertise on "Heavensabove.com" with a banner ad. It is too soon to measure the success of this endeavour that was approved at the last meeting.

Sales of the Observers Handbook and Calendar have been doing well, with the Calendar slightly ahead of last

years sales and the Handbook slightly behind. Revenues from the Handbook sales will be slightly greater than last year because of the strength, or lack of it, of the Canadian Dollar. The drop in Handbook sales is a troubling trend as the Society depends on this revenue to such a large extent. The Publication Committee is looking into new places to distribute the Handbook. Rajiv is starting to set up a web site with tips, hints and other help for using the Handbook. It will have its own page at [www.rasc.ca](http://www.rasc.ca).

The big topic for this meeting and for the next, and the upcoming GA in Montreal, was "de-coupling." This is a proposal from the National Constitution Committee and is generally endorsed by the senior officers of the Society. There is considerably less enthusiasm from the National Reps. Pomponia and myself have raised the issue at the members meetings over the past year. In a nutshell, this proposal would separate the membership dues into National and Centre fees. Each would be responsible for setting the fee but the fees would continue to be collected by National and distributed to the Centres. This appears at first to be quite reasonable, but there is a downside. In other societies and organizations that have made similar moves, this has resulted in a drifting apart of the organization and a weakening of the National Society. The RASC is very unique in this structure—it does not exist anywhere else in the Astronomical community. It is the view of everyone, including those who support decoupling, that this is what they want to preserve.

The advantages to decoupling as seen by National are:

- 1) Allow National to set their prices to reflect the needs of National without consideration of splitting fees with Centres (Currently a 60/40 split of fees occurs, with National receiving 60% and Centres receiving 40%; some Centres also have

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an additional stipend to top up their funding requirements for delivering local programmes. This is combined into the total membership fee and is transparent to Members).

- 2) Remove Centre surcharges by allowing Centres to set their own fee structure.
- 3) More open and visible accounting of money and services by National and the Centres.

The disadvantages as seen by those opposed to decoupling are:

- 1) Weakening of the structure of the Society, with National and Centres making independent—and to an extent self-serving—decisions regarding Membership fees and related services.
- 2) Increased administrative loads for Centres, especially in determining their financial needs.
- 3) Additional administrative system and procedure changes by National.
- 4) Any backlash against fee increases will be felt at the Centre level and not at National.
- 5) Centres will have little control or input over the services, or cost increases provided by National.

Pomponia and I have put together a proposal that address both level's concerns (see the sidebar on this page). This proposal does not require Constitutional changes and can be implemented quickly. It is the view of Vancouver Centre Council that there are no pending financial problems that require a new fee structure at this time. There is time to come up with solutions to the long term financial health of the Society and address the concerns of those that are uncomfortable with the proposal as it now stands.

Of interest, there was a straw vote called to let Michael Watson know if there was enough support to continue with his efforts. The result was 17 for 10 against. In order to change the Constitution, a two-thirds majority is required. This vote would not have allowed the proposal to pass!

The rest of the meeting passed

November 6, 2001

### Alternatives to Decoupling

Benefits being sought by the Constitution Committee of National from the introduction of decoupling are: (summary by Michael Watson)

- A) Independent fee increases of National and Centres
  - a. Allows independence of action at National with Centres not having to react to fee increases.
  - a. Gets rid of surcharges
  - b. Makes finances more transparent to ordinary Members
- B) No separation between Society and Centres.

**Vancouver Centre should develop alternatives to the benefits that National identified as well as address the rising cost and value of Member services delivered by National, as well as how National is presently directing Membership funds.**

Some suggestions from Bob Parry and Pomponia Martinez which require no Constitutional amendments are:

1. More transparency of where membership money goes:
  - a. On RASC renewal notice, highlight:
    - i. Total \$ amount to RASC National
    - ii. Total \$ amount to RASC local Centre (combined percentage from National and Club Stipend); (Note: calculate % of total membership by center for local and national funds)
  - b. List on the bill, the services delivered by National and Centres, so that Members can better determine value.
2. Have Centres administer a local questionnaire to all members (next year, then say once every three years) to gauge satisfaction with all products and services provided, and to provide service change suggestions. National Reps would be responsible for coordinating this.
3. Continue to have fees between National and Centres linked to ensure that each considers carefully before introducing increases.

**The Vancouver Centre Board also feels that any major constitutional changes such as decoupling, should be accepted by a majority of the Centres, not a simple majority(2/3) of votes at National's AGM.**

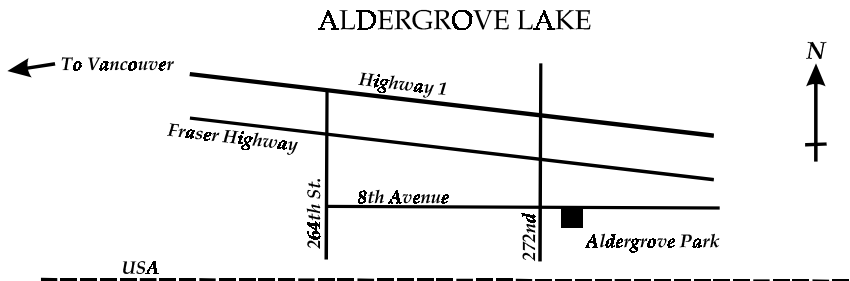
quickly without any more controversy. The new Observing Program has been well received and should be fully operational by spring, if not sooner. There was mention of prizes for those that complete the program by Oct. 2002. I will get more information and report when I know more.

The GA this summer is actually in the spring during the May long

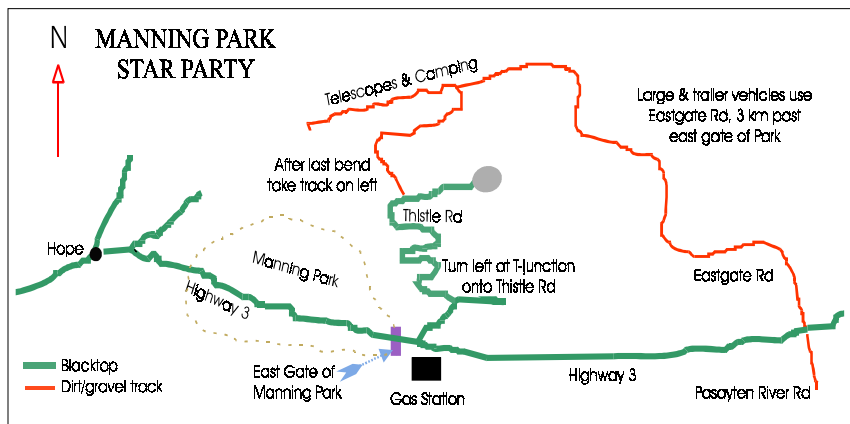
weekend in Montreal. Because of the earliness of the GA, all of our year-end reports and business must be done earlier this year. No rest for the wicked.

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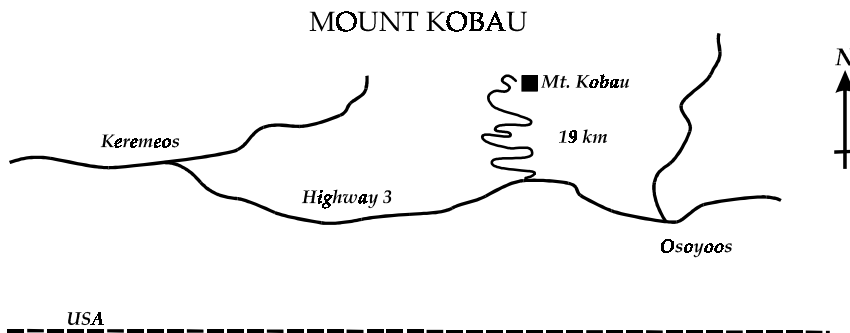
## Observing Sites



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

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would like to run for council should contact Angela Squires, Nominating Committee Chair, to find out the requirements.

November marks the 70<sup>th</sup> anniversary for Vancouver Centre. We will hold a small celebration at our meeting and it is nice that our guest speaker this month shares a connection with us that has been part of Vancouver Centre since it's foundation. Dr. Chris Waltham from UBC will speak to us about the recent discoveries made by the Sudbury Neutrino Observatory in Ontario. UBC was there at the beginning and the relationship has continued to flourish. This will grow with the participation at our 2003 GA men-

tioned above by the Department of Physics and Astronomy both with speakers and sponsorship of our event. We thank them for their most kind generosity.

Also strong in their relation with us is our host, the H.R. McMillan Space Centre. The number of events we have shared in the past year will grow next year and we will continue to have successes like the Ray Villard visit. At this time I would like to thank the staff at the Space Centre and their Managing Director Mr. John Dickenson for all the assistance they have given us over the past year. Look for more great things to come from this relationship.

In closing I would like to say thank

you for your keen participation at all events that we have held over the past 12 months. I look forward to meeting new people and increasing friendships within the Centre as the next year comes around.

“Elen sila lumenn’ omentielvo, a star shines on the hour of our meeting” — Frodo to Gildor upon the occasion of their meeting in *The Lord of The Rings* by J.R.R. Tolkien (an avid watcher of the skies). ✨

## FOR SALE

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From the Planetarium, travel time is approximately:

- 45 minutes to Cypress Mountain
- 35 minutes to Boundary Bay
- 60 minutes to Aldergrove Lake
- 60 minutes to CARO

From Boundary and Kingsway, travel time is approximately:

- 50 minutes to Cypress Mountain
- 30 minutes to Boundary Bay
- 50 minutes to Aldergrove Lake
- 50 minutes to CARO \*

## ASTROCOMPUTING

**SpaceBase™** (604-473-9358). 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.home.net/rascvc/index.html>

## 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.hmacmillanspacecentre.com/>

## MEMBERSHIP HAS ITS PRIVILEGES!

New members, did you know? The Vancouver Centre has 6 telescopes available for loan free of charge! We have telescopes ranging from 3" to 10" diameter. For more information call Phil Morris, Director of Telescopes at 604-734-8708, or see him in the lobby of the GSO after the members meeting. The loaner period is for one month only. All telescopes are to be picked up and returned after the members meeting. No telescope will be allowed to circulate outside of these meetings!

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 Penndelton at 604-888-1505 or Howard Morgan at 604-856-9186.

## Review: Carl Sagan's *Cosmos* DVD Set

by Gordon Farrell

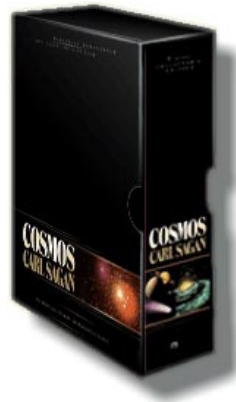
In 1980, Carl Sagan presented a 13-part television series that explored the fields of astronomy, cosmology, physics, genetics, evolution, and the possibility of life elsewhere in the universe. The Emmy and Peabody award winning series enthralled 600 million viewers, among them a certain 12-year-old boy with a burgeoning interest in astronomy. That series, *Cosmos*, is now available for purchase on a 7-tape VHS or 7-disc DVD set, the latter of which I purchased recently. This 20<sup>th</sup> anniversary Collector's Edition is a fine addition to the library of any fan of the late Dr. Sagan.

The DVD set comes in a pleasingly compact package, with all seven discs fitting into the space of three ordinary DVDs. Remastered with Dolby 5.1 surround sound and an isolated music and sound effects track, the discs also include subtitles in English, French, Italian, German, Spanish, Mandarin and Japanese. Having such an international flavour to its offerings, it's nice to see that the disk is mercifully region-free (region 0), making it playable on NTSC-compatible equipment anywhere in the world. The discs are somewhat short in the "extras" we've all come to expect on DVD releases, but it does include the "Cosmos Update" segments produced for the 10<sup>th</sup> anniversary of the series along with an additional subtitle track providing further scientific updates that bring the series up to date with our current knowledge on the various subjects covered. The series has also been updated with new imagery from the Hubble Space Telescope and other sources, where appropriate.

The first disc begins with a brief introduction by Sagan's wife and collaborator, Ann Druyan. Among other things, Druyan puts the series in context, reminding the viewer that the series was produced at the height of the Cold War, a fact reflected in Sagan's repeated references to humanity's chances of survival when faced with a dizzying array of nuclear weapons that could destroy civilization a thousand

times over. The introduction is a nice feature, though Druyan doesn't look terribly comfortable on camera.

The series itself has stood up rather well over the past twenty years. Though certain aspects are indeed dated (like Sagan's wardrobe), visually, the series hold up amazingly well. Particularly impressive are the Library of Alexandria and Cosmic Calendar sequences, where Sagan is placed inside a scale model of the ancient structure and within a model of a calendar that represents the history of the universe. This effect predates the development



of computer-tracked cameras by nearly a decade, so the fact that his feet remain securely anchored to the floor without sliding around is quite impressive (sorry, but I'm a visual effects geek; I notice such things). This is one instance where a behind the scenes extra would have been nice to have. The series also includes one of the earliest examples of computer generated imagery seen. A sequence illustrating how DNA is unwound and copied within the nucleus of a cell is entirely computer generated, with one enzyme unwinding a DNA molecule while another constructs a copy by binding floating molecules to the unwound strand.

In terms of video quality, the pic-

ture is generally good, but there are a couple of scenes where the image quality is less than stellar. The worst looking scene is one shot in the subterranean ruins of the actual Library of Alexandria; the picture is noticeably grainy. Still, considering the age of the source material, the picture quality is quite good overall. Besides, I can't say if the image quality of the offending scenes was any better twenty years ago (my memory isn't *that* good).

Though the series remains largely unchanged, there have been some updates to the sequences on board the "spaceship of the imagination." In the original version of the series, some of the imagery seen outside the windows of the ship was repeated several times over the course of the series; this is understandable, as such effects were quit expensive to produce at the time. In the updated version, some of those shots have been replaced by new, real-life imagery, most of it from Hubble. I must say that my personal feelings on these changes are mixed. While the new imagery is beautiful to look at, it doesn't quite fit in with the rest of the series. A slow zoom in on a static image just doesn't have the same cinematic punch as a visual effect that makes you feel like you're flying through space. Still, I suppose it's a matter of taste; I didn't like the changes in the *Star Wars* special editions, either.

There is one bad bit of news, however. I never managed to find a Canadian source for this set, so I had to buy it through an American web site. At US\$169, it's becoming more expensive by the day. I purchased mine through the official Carl Sagan web site, <http://www.carlsagan.com>. It is also available through the usual suspects (i.e. Amazon.com), but the price is the same. If you can afford it, I highly recommend it. ★



## RASC Vancouver Centre Nominating Committee Report

This report accords with the status of Vancouver Centre under the B.C. Society Act and as a 'Chapter' of the Royal Astronomical Society of Canada, a federally registered charitable organization. It utilizes Society Act terminology, such as Officers and Directors, but also includes the specific job designations currently in use by Council and familiar to members of this Centre. It is Council that appoints The Board of Trustees, currently consisting of four members including the President, Director of Telescopes, Sally Baker and Lee Johnson.

We are pleased to present a full official ballot of nominations for the Board of Directors, hereinafter called the Council. Council is composed of officers and directors of the society (see By-laws, Part 5. Directors and Officers). The nominees are members in good standing of the society and have signified their willingness to stand for election. Please note that a member in good standing is entitled to one vote at the upcoming Annual General Meeting on December 11<sup>th</sup>, 2001. In the event that a member fails to pay the Annual Fees as provided for in our By-Laws, they shall cease to be a member in good standing.

### Vancouver Centre nominations for Council 2002

#### Officers:

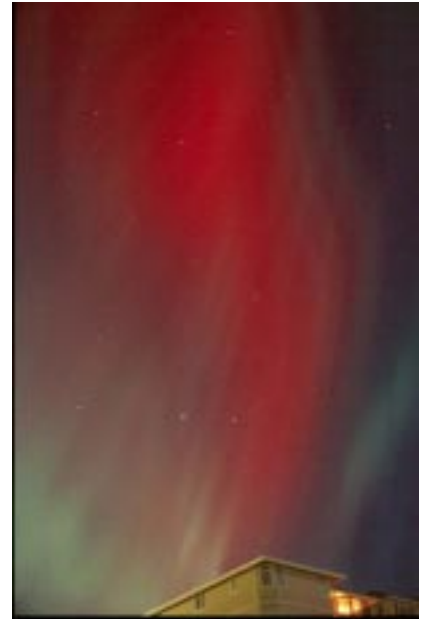
President	Craig Breckenridge
Vice President	Bill Ronald
Secretary	Marcellus Redmond
Treasurer	Marc Verschueren
Director of Telescopes	Phil Morris
Librarian	William Fearon
National Representative #1	Bob Parry
National Representative #2	Pomponia Martinez

#### Directors:

CARO Chair	Eric Fuller
Membership	Sean Roddick
Marketing	Doug Montgomery
NOVA Editor	Gordon Farrell
Public Relations	Angela Squires
Speaker Coordinator	Giovanni Andreis
Councillor	Dan Collier
Councillor	Norman Song
Councillor	Jason Rickerby

Respectfully submitted by Craig Breckenridge, Lee Johnson, Angela Squires (Chair). \*

## Members' Gallery



**Bryan Kelso**  
Northern Lights  
October 27, 2001  
Vancouver

## Messier Certificates

### by Marcellus Redmond

Many organizations, societies and clubs used to award badges to members who had demonstrated acquired skills within their group's field of interests. The Guides & Scouts still do, but now many award certificates in lieu of sew-on badges. The RASC is launching a new set of observer certificates soon to be available at Vancouver Centre. As a prelude to this, let's once again provoke members to participate at one of our clubs observing sites (listed in Nova).

At one of these sites, I learned of the Messier list. Originally a list of non-comet objects discovered by the eighteenth-century French comet ferret Charles Messier and/or his assistant

Pierre Mechain. Many have found that completing the 100+ objects on the list is like a basic training program that strengthens the bonds between the telescope-eye-mind.

The beginner's certificate would be an ideal way to start locating and identifying selected targets to start the telescope-eye-mind connections. Completing the list of targets for each certificate is not a competition but rather a journey. Some may run while others walk; how much you see depends on whether it's just a tick off the list or an object to visit and peer deeply into again and again.

In an attempt to promote participation, not competition (that occurs during March's Messier Marathon Madness),

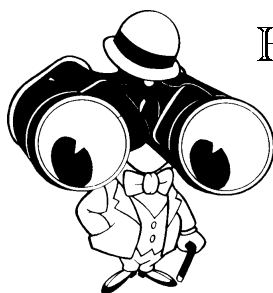
we shall start to compile and maintain some lists of members pursuing various observing certificates. Hopefully these will be in a binder available at the library. In the meantime, here is who was willing to sign up so far:

Craig B.	90+ objects for Messier cert.
Doug M.	80+ objects for Messier cert.
Marce R.	60+ objects for Messier cert.
Sheldon H.	30+ objects for Messier cert.
Dwayne B.	20+ objects (all with binocs) *

## RASC MERCHANDISE

Available for purchase after meetings:

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Celestron G-N8 E/M, accessories	\$ 1500.00
JMI NGC Micro-max (C8/GP mount)	\$ 300.00
Meade 4" Ring Tube C/Weight	\$ 45.00
Meade APO Universal Thread Adaptor	\$ 39.00
Meade 2080 8"SC + many accessories	\$ 2500.00
Sky Instruments E/mount, M/drive, tripod	\$ 99.00
Ortho 1 1/4" 4/7/12.5mm	each \$ 39.95
1 1/4" colour filters	each \$ 13.00