Web Page of the Month

"The first suggestion that this [solar] energy could be harnessed for propulsion came nearly 400 years ago when astronomer Johannes Kepler observed comet tails being blown by what appeared to be a solar breeze. Believing that this was evidence that winds blew objects about in intra stellar space, he suggested that eventually ships might be able to navigate through space using sails fashioned to catch this wind. It is now widely recognized that because space is a vacuum, winds of any significance, do not exist. What Kepler observed was the pressure of solar photons on dust particles that are released by the comet as it is orbiting. Photonic pressure is a very gentle force which is not observable on earth because the frictional forces in the atmosphere are so much larger. Thus, we only expect to observe and harness the force due to the pressure of light in the vacuum of space."

http://solarsails.jpl.nasa.gov/

ROYAL ASTRONOMICAL SOCIETY OF CANADA • VICTORIA CENTRE

SkyNews

http://victoria.rasc.ca/

This Month

Chris Gainor

The History of Mars Exploration

For centuries, Mars has baffled and tantalized people on Earth as a planet that could harbour life. Early space probes dashed hopes for life, but recent information has reopened the speculation. Our limited information about conditions on Mars has affected interest in planetary science and space exploration in both negative and positive ways. The Spirit and Opportunity rovers have renewed the search for life by discovering water on Mars, and humans still hope to visit the Red Planet soon.

Chris Gainor is a spaceflight historian who has written extensively on space exploration for a number of publications in Canada, the U.S. and the U.K. He is the author of Arrows to the Moon (Apogee Books, 2001), which tells the story of the Canadian engineers who worked on NASA's Apollo program. Chris is also a communications consultant in Victoria. He is currently president of the Victoria Centre of the Royal Astronomical Society of Canada.

Address Change? Information Incorrect?

Telephone: (416) 924-7973 (toll-free at (888) 924-RASC in Canada)
Fax: (416) 924-2911
E-Mail: mempub@rasc.ca Website: www.rasc.ca
Postal Mail: RASC, 136 Dupont Street, Toronto, ON M5R 1V2, Canada
General enquiries: nationaloffice@rasc.ca

Contact Us On-Line

Web Site: http://victoria.rasc.ca

Victoria Council members:

president@victoria.rasc.ca
vp@victoria.rasc.ca
treasurer@victoria.rasc.ca
secretary@victoria.rasc.ca
librarian@victoria.rasc.ca
nationalrep@victoria.rasc.ca
newmembers@victoria.rasc.ca
web@victoria.rasc.ca

General Enquiries:

info@victoria.rasc.ca

ROYAL ASTRONOMICAL SOCIETY OF CANADA • VICTORIA CENTRE

RASC Victoria Council

President: Chris Gainor
1490 Thurlow Road
Victoria, BC V8S 1L9
380-6358
cgainor@islandnet.com

Vice President: Bruno Quenneville
477-2257
brunoq@shaw.ca

Treasurer: Laura Roche
8581 Sentinel Place
Sidney, BC V8L 4Z8
656-2396
lroche@shaw.ca

Secretary and Recorder:
Li-Anne Dorrance
lidorrance@aol.com

Honourary President:
George Ball

Librarian & Telescopes:
Sid Sidhu
J.S._Sidhu@telus.net
Past President and
National Representative:
David Lee
479-5187
David_Lee@telus.net
Skynews Editor: Sandy Barta
Website Editor: Joe Carr
Email list: Joe Carr
web@victoria.rasc.ca

Members at Large:
Bill Almond, Jim Hesser, Ed Maxfield, Frank Ogonoski, Blaire Pellatt, Colin Scarfe, Rich Willis

New Members Liason:
Sandy Barta

This Month

Astronomy Cafe

At Bruno Quenneville's
2019 Casa Marcia Crescent,
Victoria, BC.
Call 477-2257 for more information or directions.

Newcomers are most welcome.

Come and enjoy!
Please Note: The Café will not run during the summer.Please call and confirm that the Café is open.

June 16

Astro Imaging

Every 3rd Wednesday at Bill Almond's

354 Benhomer Drive
478-6718

June 25

New Observer's Group

At Sid Sidhu's:

1642 Davies Road (off Millstream Lake Road) at 8:00 PM.
Call 391-0540 for more information or directions

September 8

September Meeting

7:30 pm
Room 060, Elliott Building, UVic

Yes,
we have summer star parties and the annual summer picnic at Pearson College.
See pages 6 & 13 for details

Yes, We post important, timely, member-related news to our email list.

Online information about the RASCVic and Skynews email lists:
http://victoria.rasc.ca/
click on: 'Members Only'

For Sale

For sale and in excellent condition:

EXT-125EC Astro Telescope (Meade Instruments)

Includes:

- Meade Super Plossl 15mm
- Meade Super Plossl 26mm
- Meade Deluxe Field Tripod #883
- Metal Carrying Case
- Standard Controller

Asking $1400—will consider best offer!

Contact: artist@cavelle.net

Island Eyepiece and Telescope

President's Message

Last summer we had Mars on our minds. Right now we are hearing a lot about our other planetary next-door neighbour, Venus. On June 8, the day before our regular June meeting, the first transit of Venus since 1882 is taking place.

This spring, Venus was high in the evening sky and gave us views of a sharp crescent as it moved toward its rare celestial rendezvous with the Sun. Unfortunately, this historic transit isn't visible from Victoria, but fear not.

The next transit of Venus, on June 6, 2012, will be visible from Victoria, although it will still be in progress as the Sun sets that day. If the weather frustrates us on that day, the wait for the next transit will extend until 2117.

Although we can't do anything about Venus except catch a plane, the Victoria Centre and our friends on the South Island have a full round of summer activities. The night after our monthly meeting, our friends at the Centre of the Universe will be celebrating their third birthday with a barbecue on Thursday June 10 starting at 7. Bring a side dish and your scopes.

Speaking of the CU, our observers group will have a meeting with Jacqueline Porter, the CU's new manager, on Tuesday June 29 starting at 7:30 p.m. And of course we will have our regular Saturday evening observing sessions on top of Little Saanich Mountain.

The RASC General Assembly this year is as far away as it can be from Victoria St. John's, Newfoundland. I look forward to hearing our national rep David Lee report on this meeting. And remember that the 2005 GA will take place on the Victoria Day weekend in Kelowna.

On the weekend of July 23, the Cowichan Valley Starfinders are hosting their annual Island Star Party at the Victoria Rod and Gun Club near the Malahat Summit. Great observing, great food, great prizes and even better people.

(Continued on page 4)

The deadline for the next issue of SKYNEWS is

August 25 2004

Get your SKYNEWS early and in colour. Tell Lauri, our Treasurer, that you get SKYNEWS on line and we won't mail you a copy.

President's Message Continued

Don't miss it!

In August, the Victoria Centre will hold its annual picnic at Pearson College in Metchosin starting 3ish in the afternoon on August 21. Keep an eye on the web-site for more information.

In September, we will pick up our regular monthly meetings, and end the summer with the RASC Star party the weekend of September 17 at the Victoria Rod and Gun Club.

Finally, we are still working on the matter of an observing site for the Victoria Centre. I hope you have filled out the questionnaire on observing sites that went out with the May Skynews. Please fill in this important survey and send it in to me, vice-president Bruno Quenneville, or Observing Site Committee chair Dave Bennett.

This summer, let's get out on clear nights and enjoy the wonders of the skies. I hope to see you at many of our summer observing events.

Chris Gainor

On the Cover!

Milky Way—Southern Cross Region

Taken: May 19, 2004 10:40 pm Local New Zealand time

I took this image from a location in the countryside near Warkworth, New Zealand. Lat: 36° 24' S, Long: 174° 40' E

In the Southern Hemisphere at this time of year, the Milky Way was at its best, just as it is in the wintertime in the Northern Hemisphere. This image shows off a great deal of structure in the nebulosity, dark lanes, and superb features such as Eta Carinae, the Southern Cross, and many very bright nebulae and star clouds. Unaided eye observations of the Milky Way were superb in the LVM 6.0 skies. Using my 9x63 binoculars revealed amazing colours and detail in the huge number of nebulae along this portion of the Milky Way.

Settings: Camera: Canon EOS 300D, 30 sec, ISO 800, f/4.5, fl=18mm.

Image Processing: ImagesPlus: original Canon raw format converted to 24 bit TIFF image, moderate Digital Development applied. Corel PhotoPaint: Two images rotated and mosaicked together, 4208x3086 image size reduced to 800x587, contrast stretch to enhance nebulosity and darken background, saturation increased to emphasize the colours.

Cheers, Joe
Joe@JoeCarr.ca www.JoeCarr.ca

ROYAL ASTRONOMICAL SOCIETY OF CANADA • VICTORIA CENTRE

(Continued from page 12)

a voice over my shoulder say " you look like you could use another scope". I whirled around with an "are you serious? Do you have one?" His response was "would you like one?" Suddenly the voice and face in the dark seemed familiar. "Who are you?" It was Ed, a fellow member with the RASC. He was there as a leader with his Cub group. I think he had been watching with sadistic glee for some time. He said that for the next night he'd bring his 8" SCT. Sadly, the Saturday night session was clouded out.

All in all, it was a wonderful weekend spent as a visiting scholar at Camp Hogwarts.

Bill Weir.

Star Parties

Both the Cowichan Valley Starfinders and the Victoria RASC hold their summer star parties at the:

Victoria Fish and Game Association
700 Holker Road
Cobble Hill, BC

Lat 48° 33.731'N
Long 23 ° 33.749' W
Elevation: 345 metres

Directions

Coming from Victoria:
Turn Right on Holker Road opposite the Spectacle Lake turn off.

Coming from Duncan area:
Turn Left on Holker Road opposite the Spectacle Lake turn off.

2004 Cowichan Valley Starfinders' Star Party

July 23 to 26
Pay at the Gate. (No advance registration required) $15.00 per person, $20.00 per couple Children under 16 are free up to maximum of 4. Fee covers the whole weekend, including day use. We have great door prizes, speakers and more!

Confirm your attendance to Rich Willis or Frank Ogonski:

Phone:	(250) 881-7523 (PDT)	(250) 748 5110 (PDT)
Email	richly@telus.net	C.V.StarFinders@telus.net

2004 RASCal's Star Party

September 17 to 19
Cost: $15 single and $20 couple or family (max 4 children under age 16). Fee includes tickets for daily door prize draws, lectures and camping on site. Attend for one hour or 3 days, same price—what a bargain!

Confirm your attendance to Rich Willis (see above)

A Weekend at Hogwarts

On the April 30-May 2 weekend, I attended a cub camp at Camp Barnard with my younger son Jesse. The theme of the camp was Harry Potter, so in reality I spent the weekend at Camp Hogwarts. Costumes were encouraged so I dug through the garage and came up with an old Morrocan robe (a relic of a colourful youth) and a gorgeous walking staff. (looks very wizard like) I went in the role of a visiting scholar from the Arabic states learned in Astronomy and the Celestial Spheres.

During camp set-up I learned there would be an Astronomy demonstration each evening. Being a guy with a big V permanently emblazoned on my forehead I found the registration tent and asked for someone in charge. Asked him If he'd like someone (me) to bring a telescope up. I had my 6" Dob in the truck with me as Camp Barnard is quite a dark location. I thought his jaw was going to hit the floor. Seems the person who was going to do the astronomy class had cancelled out at the last minute. The guy I was talking to was going to fake it. He knew that four planets and the moon would be up and would do the best he could.

Suddenly my visiting scholar status became real and I was on. Around 8:30 I went up to the field designated as the Astronomy classroom and set up my Dob. Venus and Mars were down below the tall trees to the west and Saturn was approaching them but Jupiter and the Moon were coming up nicely above the trees to the east.

A few adults wandered by and I showed them these three objects at various powers much to their enjoyment and then the kids started to arrive. Didn't look too bad 30 to 40, a manageable number. I gave a little talk about the sky and the planets, answered a few questions, then offered to show them Saturn (before it disappeared) though my scope. Maybe more if there was time.

Well the kids lined up, I gave a quick talk on telescope etiquette and we were off. Seems every time I looked up the line grew longer. Every once in a while I'd have to move the scope as Saturn kept getting into the trees, and the next kid in line still wanted to see it because the one in front got to. Felt like the Pied Piper with this line of kids following me carrying my scope around the grass field. Eventually I had to move the scope back to the beginning and switch to Jupiter and the Moon. Thank God for the easy portability of the small Dob.

Over the next 1 1/2 hours, I bet I showed well over 200 children and adults views through my scope. I think it was worse than the Mars showings last year. At the end of it all, I was drained but exhilarated. The "Holy Craps", "that's not real" and "sweets" made it all worth it. The best part was that on Saturday night I would be expected to do it all over again.

Funniest thing was that, with about 10 minutes left to the demonstration, I heard

(Continued on page 13)

General Meeting Minutes

May 12, 2004 at UVic

The Regular Monthly Meeting of the Victoria Centre of the Royal Astronomical Society of Canada, which took place in Elliott 060 at the University of Victoria, commenced at 7:35 pm. with President Chris Gainor presiding.

Welcome: Chris welcomed everyone and showed TV news items on Astronomy Day, April 24 at the Royal BC Museum. He thanked volunteers for their work, especially Stephen Courtin's contributions of posters and exhibits.

Library and Telescopes: Sid Sidhu thanked volunteers for all their work during Astronomy Day, and noted that the setup and cleanup at the museum went exceedingly well. He informed members that the Library would be open after the meeting. He mentioned more schools have booked for the school telescope program in May and June.
Chris thanked Sid and Sandy Barta for their work on organizing volunteers for Astronomy Day.

Island Star Party: Frank Ogonoski announced that the annual Island Star Party sponsored by the Cowichan Valley Starfinders will take place the weekend of July 23 at the Victoria Fish and Game Club near the Malahat summit. There will be plenty of activities and draws for telescopes and other prizes.

Treasurer's Report: Lauri Roche reported on the state of the Centre's finances and reminded members that statements are open for members to inspect at meetings. She raised correspondence about the Saskatchewan Star Party in August.
Lauri said she intends to step down as treasurer in November, and expressed the hope that her successor will make his or her name known before that time so that there is time to discuss the Centre's financial affairs.
Chris added that he will not be returning as president in the upcoming executive due to commitments outside of Victoria, and urged members to join the new council. He said a Council meeting will take place on May 26 at UVic.

Announcements and Reminders: Vice President Bruno Quenneville informed members that the Astronomy Photo Contest continues, and the Astronomy Cafe continues this summer.
He also announced that survey forms on the Centre's observing site selection program are available at the meeting. He said the site selection committee is looking at several potential sites and hopes to wrap up the selection process by this coming fall.Bruno introduced Dave Bennett, Chair or the Site Selection Committee, who said members can fill out the survey on the Centre's website.

New Projector: David Lee demonstrated the Centre's new data projector by

(Continued on page 6)

(Minutes Continued from page 5)

showing a photo he took the previous weekend of Comet NEAT Q4. David also told members that May 15 is the deadline for registration at reduced rates for this year's RASC General Assembly in St. John's.

Evening Program: Stephen Courtin demonstrated the equipment he has built to depict his Ecliptic Calendar, which gives the "big picture" of the cosmos and our place in it. He spoke about his work in the United States and in Victoria popularizing astronomy using his calendar, which plots the movement of the Sun, planets and comets against the ecliptic. He also spoke about his views on Astrology.

The meeting adjourned at 8:50pm

Chris Gainor
President/Acting Recorder

Summer Picnic at Pearson College

Saturday August 21
3-ish in the afternoon til ???

It's time to look forward to all the fun in the summer. No more stuffy meetings, fuzzy slides and dull overheads!

We're having our annual picnic a little late this year, but that just means that you have more notice.

- Bring a chair, something to share, something to toss on the barbie for yourself, and your beverage of choice.
- Parking will be at the gate to the Milky Way (not at the lower parking lot).
  If you have a lot of stuff, drive up to the observatory, drop it off and return to the gate. We'll pool rides up the Milky Way to the observatory—unless you want to walk through a nearly pristine west-coast forest and enjoy the exercise before you stuff yourself on goodies.
- Call or email Sandy for detailed instructions for directions to the College.
  Phone: 642-0205
  Email sbarta@shaw.ca
  http://www.uwc.ca/pearson/

(Continued from page 10)

by the audience. Lauri had the hardest job of entertaining the young ones and keeping their interest in the activities. Of course the ever entertaining "Wizard of the Stars" (I still cannot figure out how he does it?). He is full of tales!!!

The outside activities included viewing the Sun and the planet Venus. It was a very interesting mix of events: Bruno and his volunteers trying to stay calm while Russ Robb, in his mischievous way was trying to light a fire and in the midst of this is Blair, who tried very hard to recruit new young operators for his telescope (I think he needed a rest).

I don't know if anyone else kept the count, my count is 500 +. It is a lot of work for a one-day event, but I think it is worth it. For me the highlight of the event this year was the participation by the South Park Elementary School students and their dedicated parents. Without participation of our volunteers this event would not have been such a success. So many thanks go to our dedicated volunteers, in particular those who brought their helpers (sons) to do the clean up job. Everyone pitched in and by five o'clock there was not a sign left behind to give away our presence in the Museum's big hall. Let us not forget our volunteer coordinators Sandy and Li-Ann.

The other exciting thing, which happened early in the day, was sighting and finding remains of a rare "nova". So the Solar System scale model demonstration remained without its central body "The Sun". Next year I hope we will get a more hardy Sun that will not go supernova on us.

The weather stayed clear for viewing the Sunspots. It pays to sacrifice a few goats once in a while. For a while there was a race between Russ and Jennifer to be the first person to bag Venus. Luckily there was no fire marshal at the site, as Russ Robb was demonstrating the powers of the Sunlight by putting a pencil in the path of the concentrated sunlight and letting it burn.

Here, I would like to express my appreciation to the volunteers from NRC, Centre of the Universe, University of Victoria's Astronomy and Physics Department, Pearson College of the Pacific and the Staff and Students from South Park Elementary School. Thanks also to those who brought their telescopes at the CU and shared their excitement of the night sky with the public.

I hope we will keep this tradition intact in the future.

Sid

Pearson College Observing

Bill Weir is willing to make it possible for members to observe at the College again this summer. Call 478-5873 to arrange times. I'm flexible. Bring your own scope or use the scopes that are there. Mark Wheen the astronomy instructor would like more RASC members to take advantage of the place.

Report from the C.U. Continued

Long days are great for most people but it also means that we have to wait longer to see the stars in the evening. At this time of the year, the sky isn't completely dark until about 10:30pm. To find out the times of sunset and sunrise from your home, you can use the Sunset/Sunrise and Moonrise/Moonset calculator from NRC-HIA. The sky gets dark enough to see most stars about one hour after sunset.

This month, look for the Big Dipper high in the Northwest. You can use the Big Dipper to identify two bright stars that should get your attention in the Southern sky: Arcturus and Spica. Notice how the handle of the dipper forms an arc. Then, "follow the arc to Arcturus and spike down to Spica". Arcturus is part of the constellation Boötes, the herdsman, that looks more like an ice cream cone pointing back towards the Big Dipper. Spica is the brightest star in Virgo, a large but rather faint constellation.

In the East, you might notice three bright stars. The brightest and highest one is Vega, then further to the left is Deneb and finally further down and to the right is Altair. These three stars form the Summer Triangle. The Summer Triangle is an asterism, not an official constellation, but a pattern easy to recognize.

Finally, if you draw a line between Vega and Arcturus, you'll pass through a beautiful constellation. Closer to Arcturus, you might notice a faint half-circle of stars, like a smile looking down at you. This is the northern crown, Corona Borealis.

Clear skies and happy stargazing!
Cassie

International Astronomy Day (IAD) 2004, April 24

We again had a very successful IAD at the Museum. Many thanks go to the Museum staff for their help to make the event go smoothly. By all accounts, it was an enjoyable event for the public, young and old.

The inside activities included excellent Astrophotography displays headed by David Lee, Telescope Making workshop by Colin Wyatt, the “Ask the Astronomer” booth hosted by volunteers from NRC and UVic, Ecliptic Calendar by Stephen Courtin, displays booths by the students of South Park Elementary School, the Centre of the Universe, the University of Victoria, and the Pearson College of the Pacific. Multimedia presentations by Pal Virag and public lectures by our own president Chris Gainer and Dr. Russell Redman were well received

(Continued on page 11)

ROYAL ASTRONOMICAL SOCIETY OF CANADA • VICTORIA CENTRE

NASA's Space Place

Far-out Ideas

Ever had a great idea for a new spacecraft propulsion system, or for a new kind of Mars rover? Have you ever wondered how such "dinner napkin sketches" evolve into real hardware flying real missions out in the cold blackness of space?

The road to reality for each idea is a unique story, but NASA has defined some common steps and stages that all fledgling space technologies must go through as they're nursed from infancy to ignition and liftoff.

Suppose, for example, that you've thought of a new way to shield astronauts from harmful radiation during long space missions. In the first stage, you would simply "flesh out" the idea: Write it down, check the physics, and do some quick experiments to test your assumptions.

If the idea still looks good, the next step is to build a "proof of concept." This is the "science fair project" stage, where you put together a nifty demonstration on a low budget-just to show that the idea can work.

For your radiation-shielding idea, for example, you might show how a Geiger counter inside a miniature mock-up doesn't start clicking when some radioactive cobalt-60 is held nearby. The shielding really works!

Once that hurdle is cleared, development shifts into a higher gear. In this stage, explains Dr. Christopher Stevens of JPL, the challenge isn't just making it work, but making it work in space.

"Some conditions of space flight cannot be adequately simulated here on Earth," Stevens says. Cobalt-60 doesn't truly mimic the diverse mixture of radiation in space, for example, and the true microgravity of orbit is needed to test some technologies, such as the delicate unfolding of a vast, gossamer solar sail. Other technologies, such as artificial intelligence control systems, must be flight tested just because they're so radically new that mission commanders won't trust them based solely on lab tests.

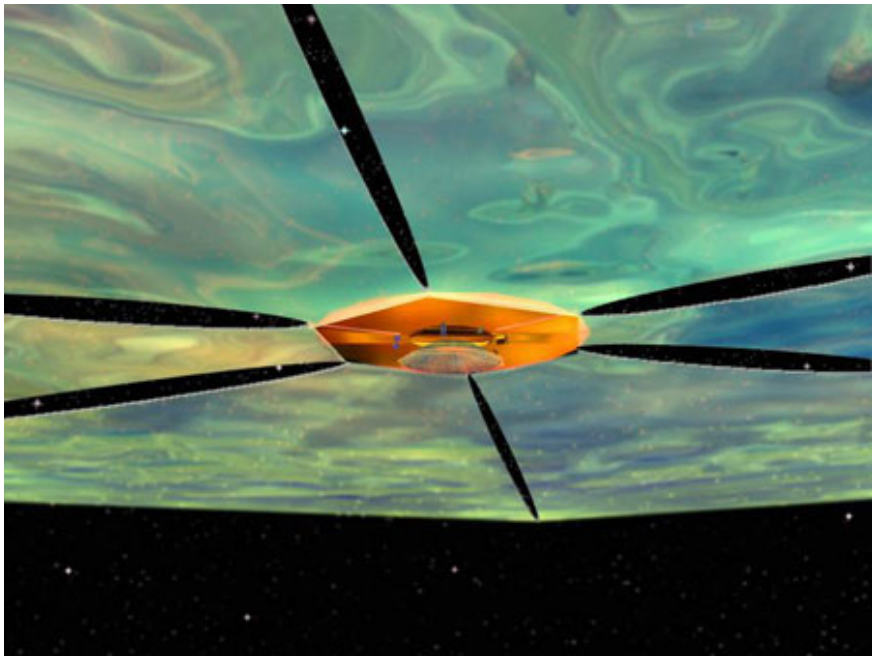
Stevens is the manager of NASA's New Millennium Program (NMP), which does this sort of testing: Sending things to space and seeing if they work. In recent years the NMP has tested ion engines and autonomous navigation on the Deep Space 1 spacecraft, a new "hyperspectral" imager on the Earth Observing 1 satellite, and dozens of other "high risk" technologies.

(Continued on page 8)

The Space Place Continued

Thanks to the NMP, lots of dinner napkin sketches have become real, and they're heading for space.
You can learn more at the NMP website, nmp.nasa.gov/.

By Patrick L. Barry



This is just one idea of how a solar sail could be used to power an interstellar probe. A solar sail is one possible type of new technology that NASA's New Millennium Program would test in space before it would be risked on a scientific mission.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Report from the Centre of the Universe

Happy Summer!

I hope everyone has had a lovely spring and is gearing up for some beautiful summer nights of star gazing! The Centre of the Universe is open daily from 10 am to 6 pm and on Friday and Saturday nights until 11 pm for viewings on the 1.8m Plaskett telescope and other great programs!

Approximately every 120 years, Venus crosses the face of the sun. We call this a transit of Venus. Planetary transits are rare; there are only 4 transits of Venus every 243 years! For astronomers during the 1600 and 1700's, planetary transits were used to figure out the size of our solar system. By watching Venus in a straight line with the Earth and the Sun, early astronomers could calculate the size of the sun, the distance to Venus and the distance between the Earth and the Sun. The last transit of Venus occurred in 1884 and then next one will not be seen until 2012. After that you will have to wait until December of 2117 to view to mysterious black dot make its way across the Sun's face. Although this event in visible only from Europe, Africa and Eastern Canada, the Centre of the Universe will be offering a chance to experience this rare event.

Join us at the Centre of the Universe on Monday, June 7th from 8 pm to midnight for a live feed from the Paris Observatory (staring at 10:30 pm) and other fabulous programs including multimedia shows and planetarium presentations! For more information on the Venus transit, please visit http://www.hia-iha.nrc-cnrc.gc.ca/cu/transit_e.html and http://www.vt-2004.org/vt-intro.html.

The Sky This Month: June 2004 (All times and dates local to Victoria, BC)

June 3	Full Moon
June 7th /8	Rare Transit of Venus (visible from Eastern Canada/Europe/Africa)
June 9	Last Quarter
June 17	New Moon
June 20	Summer Solstice 5:58 pm
June 23	Moon beside Jupiter
June 25	First Quarter

Summer officially begins this month for the Northern hemisphere. The summer solstice is on June 20th at 5:58 p.m. Pacific Daylight Time. The summer solstice is when the Sun reaches its farthest point North in the sky, therefore giving more light and heat to the Northern hemisphere of the Earth. The Southern hemisphere receives less light and it is the beginning of winter for them. The summer solstice is also when the days are the longest. Enjoy it this month because after the 20th, the days are already starting to shorten!

(Continued on page 10)