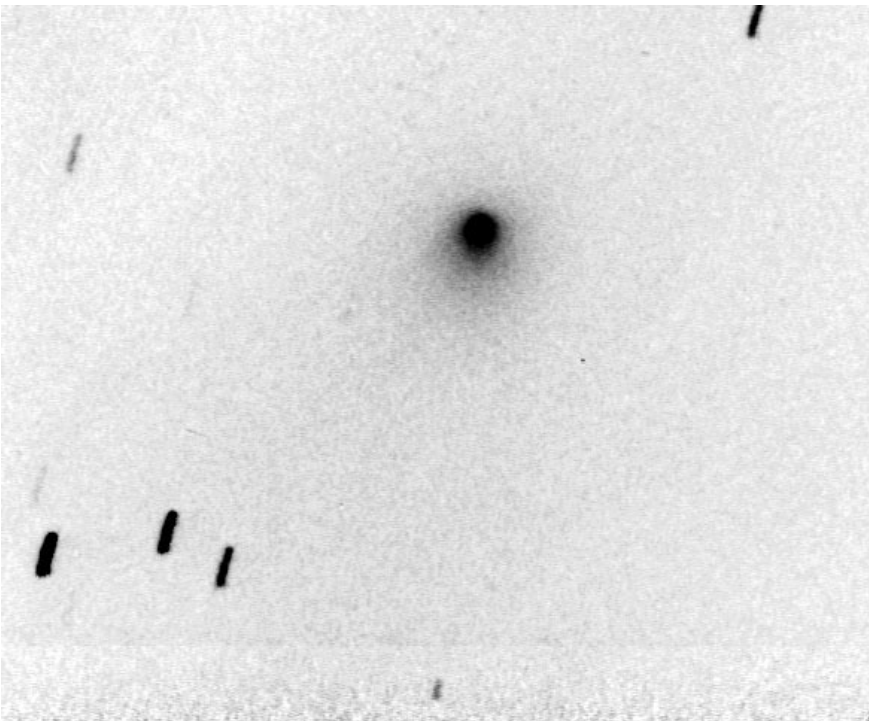
ROYAL ASTRONOMICAL SOCIETY OF CANADA • VICTORIA CENTRE

SkyNews



http://victoria.rasc.ca/

This Month

Members' Night

Special Presentations include:

- RASC Viewing events at the Centre of the Universe and other locations
- RASC GA 2005 report by David Lee
- Michael Webb's presentation of his ships cruise to view the 2004 Solar Eclipse in the South Pacific, a variety of photos and stories.
- Bill Carver's photos of Star Trails and star positioning techniques.
- Display of the centre's newly refurbished 20" Dob by Guy Walton. Guy will give a short report on the challenges and rewards of such an undertaking.
- Open floor of special presentations for the membership

On the Cover!

Where ignorance is bliss...

Comet Temple blissfully cruises along, totally ignorant of the rude indignity it will soon be exposed to. At 11 p.m. PDT, on July 3rd (6h UT July 4), NASA's Deep Impact spacecraft will release an impactor that will home in on Temple, like a kamikazi pilot. The impact, at 37,000 km/h, will vaporize the impactor in a blinding flash of light, tearing away a huge chunk of the comet's protective covering and exposing its virgin inner beauty for all voyeuristic human eyes to gaze at. Unfortunately, it may not be possible for the event to be watched from this latitude, unless your view is clear to the horizon and you are able to locate the comet during astronomical twilight. Also, exact impact timing is unknown, which means keeping your eye glued to the eyepiece for a long time.

Photo by Bill Almond

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Send Your Name to Pluto

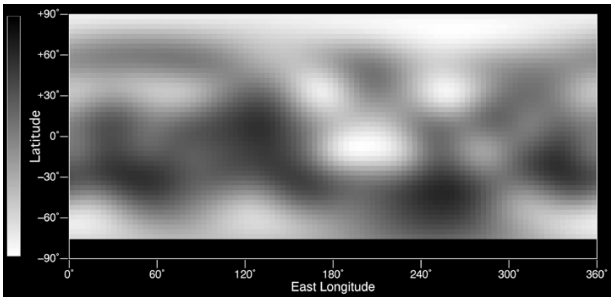
In spite of all the many bureaucratic obstacles put in the way of this mission, NASA is still pressing on with work to launch the New Horizons mission to Pluto, its moon Charon, and the Kuiper Belt.

While the flight is going through its final approval process before its projected launch early next year, the New Horizons website now offers the opportunity to send your name to Pluto on a compact disc to be carried aboard the spacecraft.

Just go to the website at http://pluto.jhuapl.edu/ and look for the section called "Send Your Name to Pluto." What better way to celebrate the 75th anniversary of the ninth planet?

If New Horizons is launched on schedule, it will encounter Pluto and Charon in 2015 and go on to encounter Kuiper belt objects later in that decade.

By Chris Gainor



Surface map of Pluto constructed from four images taken by the ESA Faint Object Camera of NASA's Hubble Space Telescope. The images were taken in late June and early July as Pluto rotated through its 6.5 day period. The map shows a very coarse view of Pluto's surface, but reveals light and dark areas which may be indicative of differences in topography and/or surface materials and frosts. Pluto is 7,500 km in circumference. (HST, STScI-PR96-09b)

Address Change? Information Incorrect?

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The deadline for the next issue of Skynews is

August 27 2005

Get your Skynews early and in colour.

Tell Joe Carr (vp2@victoria.rasc.ca) that you want to get Skynews on line and we won't mail you a copy

A Dobsonian Story

In the late 80's, RASC member Jack Newton purchased a 20" Coulter Opics mirror blank at the RTMC swap meet. Although this mirror had some minor flaws on the back surface, it held good promise.

The mirror was ground and figured by Leo Van der Byl with Jack helping in the laborious task. Members George Ball and Gene Steeves contributed equally to this project by constructing its original truss Dob frame assembly.

Jack used this scope for several years and produced most of the images used in his *Guide to Amateur Astronomy*. The scope remained in Jack's observatory at Leo's home on Klahanie Drive in Victoria.

In more recent years, the scope was stored at Sid Sidhu's place and used regularly with the "New Observers Group" learning sessions.

In 2004, amateur telescope builder and RASC member Guy Walton offered to construct a new truss Dob frame, mirror cell and cage assembly. Now complete, these new workings gave us a modern, smooth and rigid assembly. Now we have a premium club scope, the Walton 20" Dob, with great views for all to enjoy.

Bruno Quenneville VP-RASC Victoria Centre

Editor Wanted

I can't even remember how many years I've produced this newsletter! Now it's time for me to take a break—even if for just a year or two.

The editorship is a wonderful opportunity to pull together all that interests you with this hobby and gives you the opportunity to learn more about your friends and colleagues in the RASC.

Interested? Give me a call and I'll give you more information.

Sandy

Report from the 2005 GA

The trip to Kelowna started off well with no waits at the ferry. We drove out of Vancouver headed for the interior—the weather was sunny with the occasional cloudburst. As we entered Kelowna, Brenda watched as a triple rainbow appeared.

The Okanagan College Campus is a short distance from town. Five hundred kilometres and I'm ready for a snooze! Hey … what about dinner? Sleep will have to wait! We find out that a few of the RAS-Cals are down at the local Montana's so off we go in the car. It was noisy in the restaurant—it was feeding time after all! We met some new faces and a few old (as in familiar) faces.

It's **Friday morning** after breakfast and Brenda is waiting around to go on the winery tour and I'm off to attend a National Council Meeting. Even though I don't drink, there's something wrong with this picture!

The day was long and filled with much discussion about our financial status, cost saving measures, the *Journal* and reports from committees. Much of the meeting was spent on a report from the Publications Committee.

- We discussed the publications and the loss of revenue due to declining sales. Cost saving options included reducing the cost with an on-line *Journal* with paper copies optional at extra cost. We discussed additional cost saving measures such as direct-to-plate publishing methods and other paper stock. Even more discussion followed in the afternoon when Task Force 21 reported their findings and recommended improving the Society's financial situation with a new online *Journal* with optional printed copies at extra cost. Paper copies would still be available for institutions that already pay by subscription. A debate ensued about the rights of membership to a paper copy based on the *Journal's* history as our newsletter and the possibility that an electronic version would alienate members without computer resources. There were comments that this may be the lesser of two evils as it was clear to everyone that we would not be able to sustain our yearly budget deficit. Council did not make a decision, but did agree that we need an emergency fall meeting to discuss this situation.
- The Publication Committee is investigating unbundling the delivery of *Skynews* and *Journal* to improve *Skynews* delivery time.
- A motion to raise *The Observer's Handbook* price to $25.95 passed.
- Astronomy Day Coordinator Bruce McCurdy announced that most Centres participated this year with 10% of the membership working as volunteers. Bruce thanked all the Centres for their support.
- A new colour brochure is available to all Centres. The brochure has space for each Centre to customize with local content.

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- Jay Anderson will be the new Journal editor. He is really excited about revitalizing the Journal by enhancing amateur content.
- The Observing Committee announced a new lunar observing certificate, the Isabel Williamson Lunar Observing Program.
- Debra Ceravolo of the Ottawa Centre encouraged everyone to attend GA 2006 in the nation's capital. The Calgary Centre will likely host the 2007 GA.

The meeting adjourned until Sunday afternoon.

The evening's activities were a bit lighter with presentations on imaging with the new digital SLRs, an invitation to the Cypress Hills Star Party in Saskatchewan and images of the transit of Venus from Greece in 2004.

On **Saturday**, Andreas Gada spoke about his adventures in eclipse chasing and Dr. Tyler Foster from the DRAO gave a talk. David Levy was the evening's guest speaker at the Okanagan Golf Club. David, of Comet Shoemaker-Levy fame, has been a familiar face at recent RASC General Assemblies. David brings a cultural viewpoint to astronomy that touches the hearts of many of us.

Sunday's General Assembly started with motions to accept the agenda, minutes of the last GA and the financial report, all of which were carried.

Next, we voted on the motions and by-law amendments as stated in the 2005 Proxy Form. (I carried and used four proxies from the Victoria Centre membership.)

- Motion (AM0511): That the Society's membership fees be increased by $5 per year for ordinary members, $3 per year for youth members, and $100 for life members. Carried.
- By-law Amendment–Section 1 (AM0504): The timing of when fee increases take effect. Carried by special resolution.
- By-law Amendment–Section 2 (AM0505): Proposed corrections to By-law #1. Carried by special resolution.
- By-law Amendment–Section 3 (AM0506): Proposal to explicitly allow official notices to be sent to members by other than postal mail. Carried by special resolution.
- By-law Amendment–Section 4 (AM0507): Proposal to change the procedure for changing the membership fees and a change from a fixed distribution of membership fees between the Society and the Centres to a flexible distribution. Defeated. Note: Motion (AM0508) was proposed to split the aforementioned amendment for voting and defeated.

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- By-law Amendment–Section 5 (AM0510): Proposal to change the Centre practice in the use of basic surcharges. Carried by special resolution.
- Motion (AM0512): Appointment of Auditors—Tinkham & Associates. Carried.

The GA adjourned.

Council business carried on **after lunch**. We continued to discuss the proposal to deliver the *Journal* electronically. David Lane proposed accepting this plan. Rajiv Gupta pointed out that by-laws would prohibit this happening at this time; we would require a change in the wording of the *Journal's* definition. David Lane retracted the original proposal. A motion to change the definition carried. David proposed postponing the motion until further discussion. The Council meeting adjourned (the next meeting will be in Hamilton).

I managed to catch a bit of the Astrophotography Workshop just before the council meeting. Rajiv Gupta demonstrated his mosaic-building program, Registar. Jack Newton showed us what he's being doing with the Coronado Solar filter systems and the Canon Digital Rebel.

Jaymie Matthews gave a talk about the MOST micro-satellite, the "telescope in a suitcase". I highly recommend you check their website: http://www.astro.ubc.ca/MOST/overview.html

At the **evening banquet** held at Gray Monk Estate Winery, RASC President Peter Jedicke got his wish to be piped-in to the festivities. Before the banquet we got to tour the winery and sample some of Gray Monk's famous wines. The facilities were a bit cramped (I found out later they were right to capacity—there were 163 members and guests at the banquet!). The view of the lake was fabulous and the food excellent.

Jack Newton, the guest speaker, showed us his now famous solar work with the Coronado Solar Filter systems. The Canon Digital Rebel also radically changed his imaging habits. Jack also showed us views from his new astronomy community called Arizona Sky Village http://www.arizonaskyvillage.com/. He showed a breathtaking image of the Milky Way and zodiacal light.

During the evening many people received door prizes: bottles of wine (of course); books; software; and electronic eyepieces. Many Victoria Centre members received prizes—David Bennett was an early winner with an Astronomy textbook (I don't have any comments as David clutched it very closely). Yours truly got a copy of Alister Ling's (RASC Edmonton) *Lunar Calculator*—a great companion to my usual reference, Rukl's *Atlas of the Moon* and just in time to work on that new Lunar Observing Certificate! Brenda received finder charts for the Messier objects. When she got up to receive her prize I let it out of the bag that it was her birthday; she got a chorus of Happy Birthday while she was in front of everyone. I know I promised not to do it, but hey I'm on vacation and things happen. It turned out that there were four people (including David Levy) with birthdays on May 22.

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Before we left Gray Monk, a group of RASC members gathered for a very special event. The Royal Astronomical Society of Daves (RASD), a society dedicated to advancing the astronomical pursuits of those whose given name is Dave or David, initiated a new member from the Victoria Centre David Bennett—sorry, I mean Dave Bennett (David Levy is the only member who, by special resolution, can be addressed as David). We have all taken roman numerals after our name, Dave of course. Yours truly is Dave XX and David Levy is David X, and now Dave Bennett will now be referred to as Dave XXII. Welcome to the RASD! Our website is http://www.rasd.ca

Monday morning we head out for the Dominion Radio Astrophysical Observatory (DRAO)—shades of *Contact*. As we approached, we could see the radio antennas that form the DRAO Synthesis Telescope. There are seven 9-m paraboloids, three of which move on a precision rail track. We toured the facility that also includes the Solar Flux Monitor and the Large Adaptive Reflector. The Large Adaptive Reflector is a tethered blimp, or aerostat, 18 metres long and seven metres in diameter that will carry an instrument platform, “A Giant Steerable Radio Telescope”. The blimp is affectionately called Bob. Find more information at http://www.drao-ofr.hia-iha.nrc-cnrc.gc.ca/index_eng.shtml .

After the DRAO, there were open house invitations from the Newtons and the Sehgals so it was off to Osoyoos. First stop: the Newton Observatory. As I approached the house I saw a familiar mascot from the days Alice and Jack lived at Matheson Estates in Sooke—the cougar. They kept it! The views from Anarchist Mountain are breathtaking. We wandered around the bed and breakfast with its comfortable theatre where people were watching SolarMax. Others were

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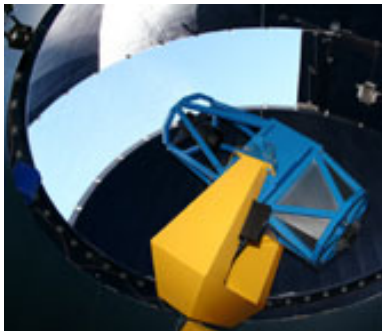
observing through the Coronado PST Solar Scope on the deck. Jack was showing Saturn through his 16" Meade Telescope in the dome. I was carrying an item in my backpack that has been sitting in my den since I was Victoria Centre President—one of two Newton-Ball Service Award plaques made to honor the individuals who founded the award. Jack was not around when we presented George's plaque and I've been chasing Jack at each GA trying to present it to him. Well, I finally did at the Newton Observatory.



Further up Anarchist Mountain we found the Sehgal residence and observatory with yet another beautiful view of the valley. I couldn't believe the variability and drama of the skies—not conducive to astronomy, but beautiful nevertheless.

Out on the balcony I saw Jean and Helene Godin. Jean initiated the student astronomy activities at Pearson College and, along with Jack, found a home for Jack's 25 inch telescope in the Godin/Newton Observatory. (The student program is still running with Bill Weir a regular contributor to the program.) Ajay took us down the hallway to the observatory: first stop, the warm room. Through the window I could see the ObservatoryScope 20" f/5 research-grade robotic telescope. The scope features a hybrid band-worm drive system that is capable of tracking for 20 minutes without periodic error! As one of the next generation of advanced robotic telescopes, it is accessible from anywhere in the world through the internet. What a telescope! You can find more information about it on the ObservatoryScope website: http://www.observatoryscope.com. The Sehgals were wonderful hosts. The two observatories were definitely worth seeing as was the view from Anarchist Mountain. *David Lee*

Seeing in the Dark with Spitzer

Have you ever gotten up in the middle of the night, walked to the bathroom and, in the darkness, tripped over your dog? A tip from the world of high-tech espionage: next time use night-vision goggles.

Night vision goggles detect heat in the form of infrared radiation—a “colour” normally invisible to the human eye. Wearing a pair you can see sleeping dogs, or anything that’s warm, in complete darkness.

This same trick works in the darkness of space. Much of the exciting action in the cosmos is too dark for ordinary telescopes to see. For example, stars are born in the heart of dark interstellar clouds. While the stars themselves are bright, their birth-clouds are dense, practically impenetrable. The workings of star birth are thus hidden.

That's why NASA launched the Spitzer Space Telescope into orbit in 2003. Like a giant set of infrared goggles, Spitzer allows scientists to peer into the darkness of space and see, for example, stars and planets being born. Dogs or dog stars: infrared radiation reveals both.

There is one problem, though, for astronomers. “Infrared telescopes on the ground can't see very well,” explains Michelle Thaller, an astronomer at the California Institute of Technology. “Earth's atmosphere blocks most infrared light from above. It was important to put Spitzer into space where it can get a clear view of the cosmos. ”The clear view provided by Spitzer recently allowed scientists to make a remarkable discovery: They found planets coalescing out of a disk of gas and dust that was circling—not a star—but a “failed star” not much bigger than a planet! Planets orbiting a giant planet? The celestial body at the center of this planetary system, called OTS 44, is only about 15 times the mass of Jupiter. Technically, it’s considered a “brown dwarf,” a kind of star that doesn’t have enough mass to trigger nuclear fusion and shine. Scientists had seen planetary systems forming around brown dwarfs before, but never around one so small and planet-like. Spitzer promises to continue making extraordinary discoveries like this one. Think of it as being like a Hubble Space Telescope for looking at invisible, infrared light. Like Hubble, Spitzer offers a view of the cosmos that’s leaps and bounds beyond anything that came before. Spitzer was designed to operate for at least two and a half years, but probably will last for five years or more.

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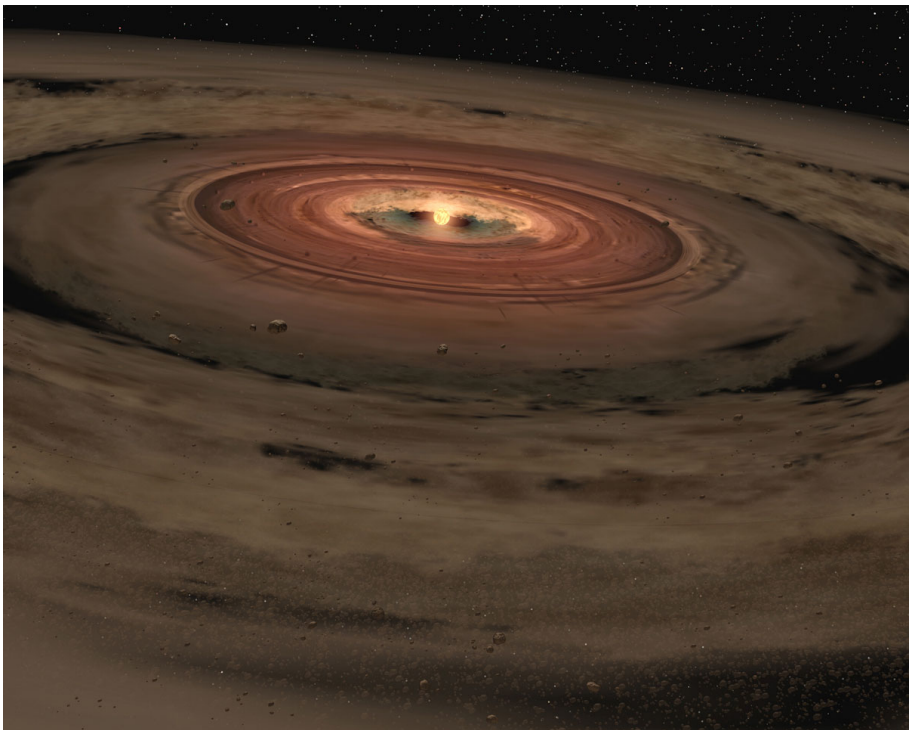
For more about Spitzer and to see the latest images, go to http://www.spitzer.caltech.edu/spitzer. Kids and grown-ups will enjoy browsing common sights in infrared and visible light at the interactive infrared photo album on The Space Place, http://spaceplace.nasa.gov/en/kids/sirtf1/sirtf_action.shtml.

by Patrick L. Barry and Tony Phillips



Artist's rendering of brown dwarf OTS44 with its rotating planetary disk.

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

Centre of the Universe

Happy June everyone! We are almost in the full swing of summer programming at the Centre of the Universe. Here is what is going on in the months to come.

Open 7 Nights a Week

The skies are clearing and summer is upon us! We are very excited to announce that we are now open every night of the week from 1 pm to 11 pm until the end of September. Join us for a new theme every week throughout the summer months! So far Friday and Saturday evenings seem to be the most popular. If you are interested in a more intimate experience, try coming for the same programming earlier in the week.

Please note that evening entrance rates will apply from 7:00 to 11:00 pm. Our annual passes are a great value—by purchasing one, you will have entrance to any or all of the evenings we are open.

Tall Ships Festival: June 22 to 26

The Tall Ships are visiting Victoria! Come learn how sailors used the stars to discover new life and new civilizations. On these evenings the Centre will focus on celestial navigation with a special multimedia presentation and planetarium show. Stuck in the city with no car? No problem. The Centre of the Universe staff will be downtown at the festival with our mobile Starlab Planetarium. Come and visit us in our portable dome and get a tour of the night sky.

For more information about the Tall Ships Festival visit:
http://www.tallshipsvictoria.ca/.

Summer Astronomy Course: And Beyond...

Sign up now for our summer astronomy course "And Beyond..." This 9-hour course will give you an introduction to basic astronomy and a tour of the constellations, planets and deep sky objects of the season. We'll also explore more deeply the big questions in astronomy: Where did it all come from? How's it going to end? And are we really alone?

And Beyond... runs Wednesday nights, June 14, 21 and 28, from 7:00 to 10:00 pm. No previous astronomy background required (is most appropriate for adult learners). Any interested students under the age of 18 are asked to contact the Centre to discuss their enrolment. Course registration is $89+GST or $79+GST for season's pass holders. Space is limited, so sign up now!

Summer Space Camps

If your kids are into space, why not sign them up for our Summer Space Camps? These four or five day long camps are geared for kids aged 6 to 13, and will include fun hands-on astronomy activities and crafts, planetarium shows, and many other interactive presentations. We held our first Space Camp during March Break, and the kids had a blast!

Camps run from 9:00 am to 3:00 pm each day. Camp fees are $150+GST per

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Centre of the Universe Continued from page 8

week, or $120+GST for each additional child from the same family. For the four-day French camp, fees are $120+GST, or $96+GST for additional siblings.

Sign up now! Space is limited! Check with the Centre for a schedule of the Summer Space Camps.

To register, and for more information, call the Centre at 363-8262.

The Sky This Month: June 2005

(All times and dates local to Victoria, BC)

June 6	New Moon
June 8	Thin crescent moon above Venus in the West
June 15	Moon at First Quarter
June 16	Moon within 0.4° of Jupiter
June 20	Summer Solstice (summer begins 11:46 pm PDT)
June 22	Full Strawberry Moon
June 24	Venus, Saturn and Mercury close together in the West
June 27	Mercury and Venus side by side in the West
June 28	Moon at Last Quarter

Summer officially begins this month for the Northern hemisphere. The summer solstice is on June 20 at 11 46 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 day of the Summer Solstice is the longest day of the year; thereafter, the days will get increasingly shorter.

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 in the Southern sky: Arcturus and Spica. Notice how the handle of the dipper forms an arc. Follow the handle to arc to Arcturus and spike to Spica. Arcturus is part of the constellation Boötes, the herdsman. Boötes looks more like a kite or an ice cream cone pointing towards the Big Dipper. Spica is the brightest star in Virgo, a large but rather faint constellation. Look for Jupiter near Spica; you should be able to see it easily because it will be the brightest star-like thing in Virgo, much brighter than Spica. If you have a good pair of binoculars (8 or 10 power) be sure to take look at Jupiter. You should be able to see up to four of Jupiter's largest moons (Io, Callisto, Ganymede and Europa).

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Look in the sky for the smile next to the ice cream cone (Boötes). If you find this shape, you have just found the Northern Crown or the Corona Borealis.

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, and a highlight of the summer sky.

June's Full moon is called the Full Strawberry Moon according to the Algonquin people. This is the time of year that the people would set out to harvest wild strawberries. In the Wsanec (Saanich) calendar the June full moon is the Centeki or Sockeye Moon. June on the west coast marks the return of the Sockeye salmon to the straits. The Saanich people fished for sockeye in the straits instead of waiting for the river run. This gave them a trading advantage of one month. In this time they were able to catch a brighter coloured, higher quality salmon.

Clear skies and happy stargazing! Stasia and Margaret

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New Members Liaison:
Sandy Barta

This Month

Astronomy Cafe

The last Astronomy Café of the summer will be June 11. The Café resumes September 12.

Bruno encourages all members to meet at the Centre of the Universe on Mondays and various other locations as will be announced by our observers group email subscribers list.

Astro Imaging

resumes in the fall

June 24

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

Island Star Party

July 1, 2 & 3
http://starfinders.cvnet.net/home.htm

Victoria RASC Star Party

September 2, 3 and 4
(Labour Day weekend).
Check our website for information later in the summer

Sept 14

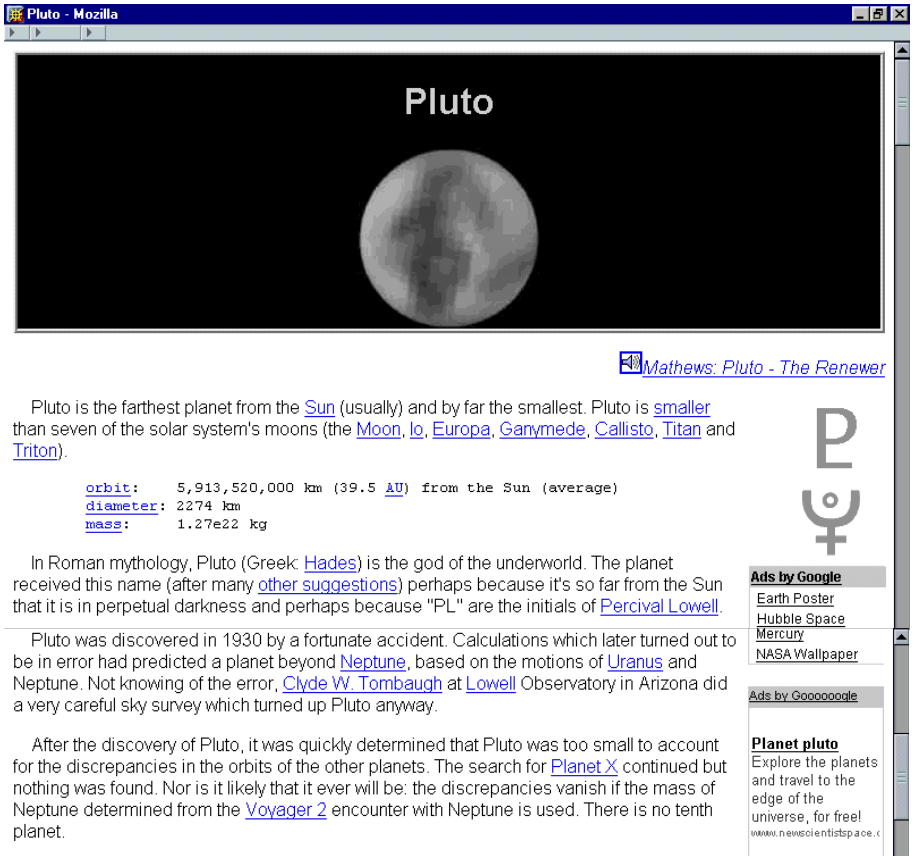
September Meeting

7:30 pm
Room 060, Elliott Building, UVic

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'

Web Page of the Month



Pluto - Mozilla

Pluto

Mathews: Pluto - The Renewer

Pluto is the farthest planet from the Sun (usually) and by far the smallest. Pluto is smaller than seven of the solar system's moons (the Moon, Io, Europa, Ganymede, Callisto, Titan and Triton).

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orbit:    5,913,520,000 km (39.5 AU) from the Sun (average)
diameter: 2274 km
mass:     1.27e22 kg
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In Roman mythology, Pluto (Greek: Hades) is the god of the underworld. The planet received this name (after many other suggestions) perhaps because it's so far from the Sun that it is in perpetual darkness and perhaps because "PL" are the initials of Percival Lowell.

Pluto was discovered in 1930 by a fortunate accident. Calculations which later turned out to be in error had predicted a planet beyond Neptune, based on the motions of Uranus and Neptune. Not knowing of the error, Clyde W. Tombaugh at Lowell Observatory in Arizona did a very careful sky survey which turned up Pluto anyway.

After the discovery of Pluto, it was quickly determined that Pluto was too small to account for the discrepancies in the orbits of the other planets. The search for Planet X continued but nothing was found. Nor is it likely that it ever will be: the discrepancies vanish if the mass of Neptune determined from the Voyager 2 encounter with Neptune is used. There is no tenth planet.

http://www.nineplanets.org/pluto.html

Check out the rest of the planets ...

http://www.nineplanets.org/

And

http://nssdc.gsfc.nasa.gov/planetary/planets.html