ROYAL ASTRONOMICAL SOCIETY OF CANADA • VICTORIA CENTRE

SkyNews

http://victoria.rasc.ca/

This Month

Dr JJ Kavelaars

The Irregulars of the Outer Solar System

The irregular moons of Uranus and those other pesky gas giant planets must be telling us something. I will present some hints that these small objects may indeed be giving astronomers a glimpse into what the early solar system was like.

Dr JJ Kavelaars spends his time looking through many thousands of CCD images, searching for small objects in the outer solar system. He has discovered a least one satellite of each of the gas giant planets, named four moons of Saturn in honor of northern mythologies, discovered hundreds of minor planets in the Kuiper belt and is working on a variety of research projects, focusing on understanding of the formation of our planetary system.

JJ received his Ph.D. from the Department of Physics at Queen's University in Kingston Ontario in 1998. He is currently an Associate Research Officer at the NRC Herzberg Institute of Astrophysics, and an Adjunct Assistant Professor in the Physics and Astronomy Departments at McMaster University and the University of Victoria. Dr. Kavelaars is the discover, or co-discover, of over 30 satellites of the gas giant planets, and has discovered irregular moons of each of the four gas giants. He has discovered hundreds of Kuiper Belt objects.

On the Cover!

Big Dipper from the Malahat
Dave Hobson took this image of the big dipper from the Malahat lookout overlooking Mill Bay. *It was only 3 degrees outside and a very cold, strong wind was blowing. I used my tripod, but had it extended all the way to reach over the very high railing. Headlights from the highway were making it very difficult. But fun...*

Contact Us On-Line

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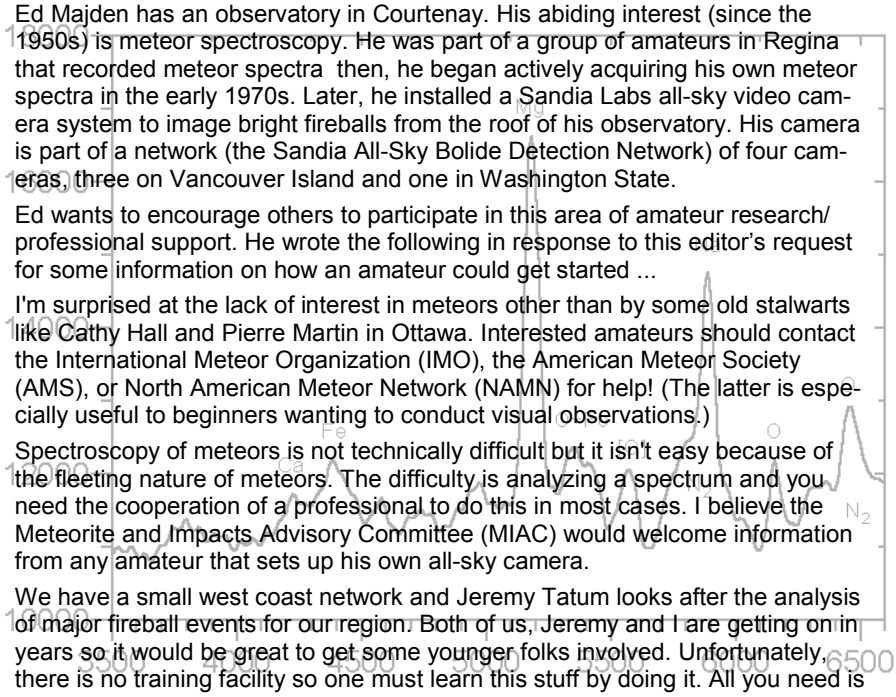
Meteor Observing and Research



Ed Majden has an observatory in Courtenay. His abiding interest (since the 1950s) is meteor spectroscopy. He was part of a group of amateurs in Regina that recorded meteor spectra then, he began actively acquiring his own meteor spectra in the early 1970s. Later, he installed a Sandia Labs all-sky video camera system to image bright fireballs from the roof of his observatory. His camera is part of a network (the Sandia All-Sky Bolide Detection Network) of four cameras, three on Vancouver Island and one in Washington State.

Ed wants to encourage others to participate in this area of amateur research/ professional support. He wrote the following in response to this editor's request for some information on how an amateur could get started ...

I'm surprised at the lack of interest in meteors other than by some old stalwarts like Cathy Hall and Pierre Martin in Ottawa. Interested amateurs should contact the International Meteor Organization (IMO), the American Meteor Society (AMS), or North American Meteor Network (NAMN) for help! (The latter is especially useful to beginners wanting to conduct visual observations.)

Spectroscopy of meteors is not technically difficult but it isn't easy because of the fleeting nature of meteors. The difficulty is analyzing a spectrum and you need the cooperation of a professional to do this in most cases. I believe the Meteorite and Impacts Advisory Committee (MIAC) would welcome information from any amateur that sets up his own all-sky camera.

We have a small west coast network and Jeremy Tatum looks after the analysis of major fireball events for our region. Both of us, Jeremy and I are getting on in years so it would be great to get some younger folks involved. Unfortunately, there is no training facility so one must learn this stuff by doing it. All you need is

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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

The deadline for the next issue of SkyNews is

January 21 2005

Get your SkyNews early and in colour. Tell David Griffiths, Treasurer, that you get SkyNews on line and we won't mail you a copy

(Meteors Continued from page 3)

the interest. We can only offer advice! Amateurs are the core of meteor observers providing observational data to professionals. Sadly, most of these are not in Canada anymore except for the MIAC fireball group. The IMO, AMS, and NAMN collect and pass on amateur observations to professionals that can use this information.

Don't hesitate to contact Ed for more information and encouragement: epmajden@shaw.ca

http://www.amsmeteors.org/spectra/majdenobs.html

http://members.shaw.ca/epmajden/index.htm

And check these resources:

American Meteor Society: http://www.amsmeteors.org/index.html

North American Meteor Network: http://www.meteorobs.org/index.html

International Meteor Organization: http://www.imo.net/

Meteorite and Impacts Advisory Committee: http://miac.uqac.ca/MIAC/

Do you want to report a bright fireball?

Ed asks that you report bright fireball events observed over the Pacific North West and B.C. to his email address, epmajden@shaw.ca. Include the date, time observed, time zone, and other details. Make this report in a timely fashion as he reuses fireball video tapes after about five or six days.

Astronomy Day

International Astronomy Day (IAD) 2005 is on Saturday April 16. We have confirmation that daytime activities will be at the Royal British Columbia Museum. As usual the evening/ night sky viewing will take place at the Centre of the Universe.

The organizing committee will be meeting soon to select a theme for this year's IAD and to plan the activities. We will let you know what we have planned as soon as possible.

Celebrating IAD gives us an opportunity to enhance our public outreach program and to share our enjoyment of our hobby with the public. Astronomy has no cultural, religious or age boundaries—it is shared equally by all.

The success of any such program depends upon sharing the workload. So please offer your time to volunteer. Don't wait for us to ask you, take the lead.

Thanks, Sid

Report from the Centre of the Universe

January 2005

Happy New Year! I hope you all had a great holiday season!

Here is our newsletter for January!

Please note that we are having another couple of Saturn Nights on Friday, January 21 and Saturday, January 22nd!

I hope everyone enjoyed the holiday season! We have had many clear nights over the last few weeks, perfect for stargazing if you can stand the cold!

The New Year brings new hours and admission rates to the Centre of the Universe.

As most of you know, the Centre of the Universe is a cost recovery organization. To balance rising costs, we have increased our admission rates for the first time in over three years. We are looking forward to an exciting 2005 with increased evening access to the Centre and the Plaskett telescope during the summer season as well as expanding programming including practical astronomy sessions and planetarium shows as well as more staff interaction. I look forward to seeing each of you in the near future!

Hours:

Tuesday to Friday	10:00 am to 4:30 pm (8:30 am for booked school groups)
Saturdays	10:00 am to 5:30 pm

Admission:

Adult (18 years and older)	$9 (plus GST)
Seniors (over 65) and Students (with Valid ID)	$7 (plus GST)
Children (4 to 12 years of age)	$5 (plus GST)
Children under 4 (with parent)	Free
Families (2 adults and 3 children under 18)	$23 (plus GST)

Special Event:

Saturn: The REAL "Lord of the Rings"
Friday, January 21 and
Saturday, January 22 from 7:00 to 11:00 pm

Every year the second largest planet in our solar system shines brilliantly in our night sky. All

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of the giant planets in our solar system have rings, but Saturn, hands down, is the "Lord of the Rings". Saturn's rings have a diameter of over 300,000 km, but are only about 1 km thick. You can see these glorious rings of ice and rock in remarkable detail, even with a small backyard telescope.

In July of 2004, the Cassini Spacecraft (launched in 1997) reached Saturn. This important mission is focusing on many aspects of Saturn, including an up-close look at the vast ring system, a survey of the elemental composition of Saturn and its atmosphere, and a study of Saturn's 31 known moons. The probe is sending back amazing pictures of almost everyone's favourite planet! As well, a probe carried by Cassini (named Huygens) will be sent down to the surface of Titan, the largest of Saturn's moons, on January 14.

In conjunction with NASA's Saturn Observation Campaign, the Centre of the Universe will open its doors for a look at Saturn and some of the information being sent back from the Cassini spacecraft and the Huygens probe. There will be telescopes on the front deck for viewing the Lord of the Rings (the planet, not the movie). Programming will include multimedia presentations, planetarium shows, crafts and scavenger hunts for the kids and the young at heart. There is no better time to take a closer look at the real "Lord of the Rings". Join us at the Centre of the Universe to see Saturn in all its glory. Fun for the whole family!

Centre of the Universe Courses

Planets:
An introductory course to planetary astronomy and the winter skies

Wednesdays	January 19, 26 and February 2 7:00 to 10:00 pm.
Registration	$79+GST Centre of the Universe season's pass holders $89+GST for all others.
Location	Centre of the Universe 5071 West Saanich Road

Our winter night course is perfect for the adult learner who's interested in astronomy. This exciting nine-hour course will give you an introduction to general astronomy, in-depth information on our Solar System and how to find extra-solar planets, and lots of time for guided explorations of the night sky. You'll be taught by trained astronomers and educators, and have a chance to tour the Plaskett telescope, work in the Skylab planetarium, and observe with research-grade telescopes.

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"Planets" has been completely redesigned from our old "Winter Skies" course, featuring a new curriculum and a new project-based format. Come experience the difference!

The "Planets" course requires no previous astronomy background, and is most appropriate for adult learners. We ask any interested students under the age of 18 to contact the Centre to discuss their enrolment.

For more information or to register, please email the Centre at cu@nrc.gc.ca, or call (250) 363.8262.

Singles Night at the Centre of the Universe

Saturday, February 12 from 7:00 to 11:00 pm

Do you love the stars? Looking for someone to share your hobby with? Or, just looking for a fun evening and a chance to meet some new people? With Valentines Day just around the corner, join us for a fun evening of great stories, good laughs, a little astronomy and the chance to meet someone special! Keep your calendar open—more details to come!

Professional Development for Teachers

The Centre of the Universe is pleased to offer professional development opportunities for elementary, middle and secondary school teachers. Our experienced staff of astronomy educators and space enthusiasts will spend the day with you exploring astronomy; how it fits in to the Ministry of Education's Learning Outcomes and fun, effective ways to present it in your classroom. You will receive great resources including lesson plans, cross-curriculum tie-ins, information sheets and activities for your students. Join us at the Centre of the Universe for a workshop or book an in-school session at a time convenient to you and your staff!

Upcoming workshop at the Centre of the Universe
February 18, 2005 9:30 am to 2:00 pm

The workshops and in-school sessions will be held at no cost to teachers. Space is limited, so be sure to reserve your workshop spot or in-school session soon!

Interested? Please email Cassie at cassie.holcomb@nrc.gc.ca or call 363.0008

The Sky This Month: January, 2005

(All times and dates local to Victoria, BC)

January 2	Earth at Perihelion
January 3	Last Quarter
January 4	Moon occults Jupiter
January 10	New Moon

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January 14	Huygens Probe lands on Titan
January 16	First Quarter
January 25	Full Moon
January 31	Moon occults Jupiter

Happy New Year! Saturn will be in the spotlight for this January with the descent of the Huygens Probe to the surface of Titan, Saturn's largest moon.

January 2 marks this year's perihelion for the Earth, or the day that the Earth is the closest to the Sun, 147.1 million kilometres. The orbit of the Earth around the Sun is not circular; instead, we travel in an ellipse, or oval path, causing the earth to be at different distances from the sun throughout the year. Many people believe that our distance from the sun causes our seasons. This is incorrect as we are the closest to the sun during winter in the Northern Hemisphere. The tilt of the Earth and the amount of sunlight that hits us that causes our seasons.

Saturn is known as the "Lord of the Rings" having the most magnificent ring system of all of the planets in our solar system. In 1997, NASA launched the Cassini spacecraft sending it to Saturn. In July of 2004, after a seven year journey, the spacecraft finally reached the ringed planet and has been taking remarkable pictures of Saturn, its rings and its moons ever since.

This month, people in the astronomical world will be anxiously waiting by their computers and televisions for information on the Huygens probe as it is descends onto the surface of Titan on January 14. Titan is the only moon in our solar system with a very thick atmosphere. Scientists believe the current conditions on Titan might resemble conditions on Earth in its early days, before life. Atmospheric data collected from the Huygens descent might solve the mystery of how life began on Earth. For more information on the Cassini-Huygens mission go to the NASA/JPL website http://saturn.jpl.nasa.gov/home/index.cfm .

Winter constellations are still beautiful over the skies of Victoria! Head outside at 8 pm to view the following constellations. Look to the West to find the "great square" of Pegasus above the horizon (it looks more like a diamond this time of year than a square). To the North, you will see the big dipper standing on its handle just off to the Northeast. To the East, look for two bright stars perpendicular to the horizon. These are Castor and Pollux, the heads of the twins, Gemini. Above these two stars, you will find a very bright star twinkling in our skies. This star is called Capella in the constellation Auriga, the charioteer. This star is quite bright and often mistaken for a planet or aircraft.

You can see Orion, the hunter, just above the Southeast horizon. His hourglass shape is one of the most recognizable constellations in the night skies. Look down towards the horizon from Orion to find a bright star. This is Sirius, part of the constellation Canis Major. Sirius is the brightest star in our nighttime sky.

The planets are visible in the month of January. Look just below Gemini to spot

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Saturn in the night sky. It will appear as a yellow coloured star just below Castor and Pollux. Looking for the king of the gas giants? Turn to the east after midnight to find Jupiter in the constellation Virgo. Jupiter shines brightly in the sky. Just before sunrise, look to the east again to see the "morning star" slightly above the horizon. Venus is, by far, the brightest planet seen in our skies. Mars still dimly glows low in the southeast before sunrise.

The first part of January gives us a great view of Comet Machholz, c/2004 Q2, a very bright comet that is very visible through binoculars. You may even be able to see it with your naked eyes in a very dark location. Right now, the comet is close to the Pleides and will only be about 2 degrees from them on the evening on January 7. This is a great opportunity to see a comet in the sky, so head outside tonight! For more information on Comet Machholz and for viewing charts, check out:
http://skyandtelescope.com/observing/objects/comets/article_1396_1.asp and
http://skyandtelescope.com/observing/objects/comets/article_1423_1.asp.

All the best to you and your family in the New Year!

Clear skies and happy stargazing! Cassie

2005 GA — Okanagan

RASC members from across the country are warmly invited to join The Okanagan Centre in Kelowna, British Columbia, next May for the 2005 General Assembly. This event promises to be a very memorable and most enjoyable national convention. The four-day event includes a variety of tours, displays, contests, and lectures, plus plenty of great food and a sip (or two!) of Okanagan wine.

Victoria Day long weekend
May 19-23 2005

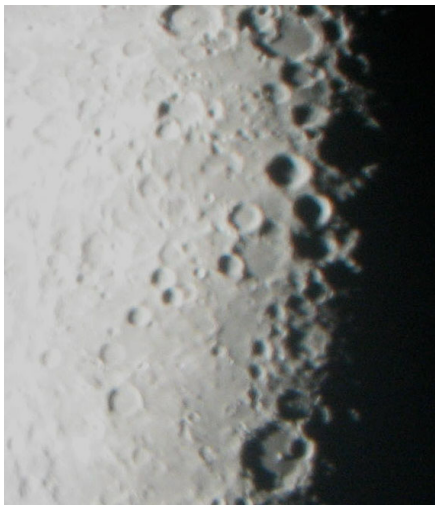
As more information becomes available, you can keep track by visiting the Okaganan Centre's web site www.ocrasc.ca/

Moon

December 18, 2004, 19:50 h

Tonight I was out just clowning on the Moon through the fog. Even though the view was a bit fuzzy, the seeing was actually quite steady. Anyway, as I was moving along the terminator trying to identify craters I came across an unusual Lunar Ray. Suddenly I remembered a recent article in the Nov/Dec '04 SkyNews about this X shaped ray. I dashed to the camera as the clouds thickened and the Moon moved towards the trees. This is the best shot of the bunch with my wife's Cannon Powershot S50 held up to a 12mm Speers WALER and my 6" dob. Very cool.

Bill Weir



On the National RASC email list,Dave Chapman added an explanation of his forecast for this and other apparitions of this feature:

The forecast is based on the synodic period of the Moon. In fact, the X should appear every lunation, but since this works out to 4 weeks and 1.5 days, one would have to go to the other side of the Earth to see it, assuming the apparition did not last long.

Because the synodic period is very close to 29 1/2 days, two lunations are almost exactly an integer number of days: 8 weeks and 3 days. If one observes at the same time of night every two months, the lunar phase is almost the same.

Based on that, the next appearance of the X would be February 15; however, I am not so sure about how good my extrapolation is...I would look on Valentine's Day just in case. It would not hurt to look on the nights of January 16 & 17, but I suspect that the effect is too fleeting.

One can put the RASC Observer's Calendar to good use: look for the day when the Moon is just shy of first quarter.

http://www3.ns.sympatico.ca/dave.chapman/astro_page2.html

Dave's website includes the following information:

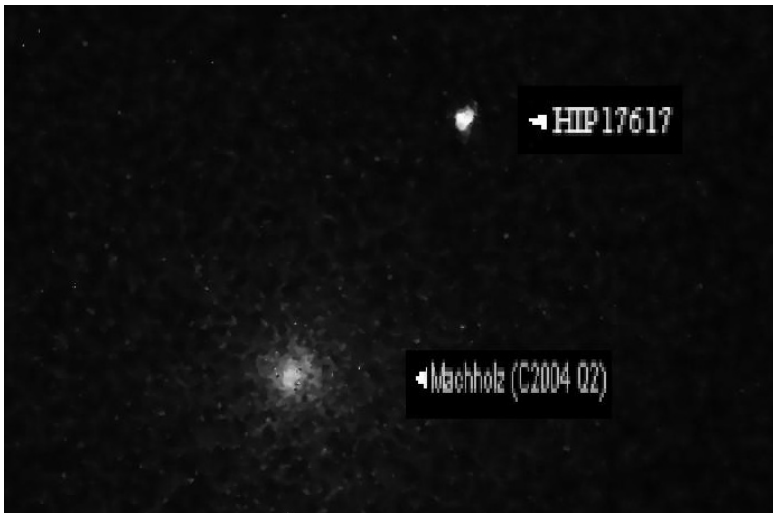
Dave has written about astronomy, mostly the history. He writes a regular column in the *Journal* of the Royal Astronomical Society of Canada and occasionally writes two-minute scripts for the radio show *StarDate* (broadcast on National Public Radio in the U.S.) He has also contributed to *Earth & Sky*, a similar radio broadcast, and has written a couple of articles for *SkyNews* magazine

Joe Carr

Comet Machholz

Just wanted to share this image of Comet Machholz Roy and I took in the cold last night with our basic digital camera and small refractor. This comet is very bright and is easy for all to see with binoculars. Hope to see some clear sky on the 7th when the comet is right next to the Pleiades. Could make for some great pics.

Matthew Watson



Comet Machholz at Otter Point

The Comet is definitely worth seeing from Otter Point. What a spectacular view it was! The Hyades, Comet and the Pleiades formed a beautiful triangle in the sky. I was finally able to capture one of the tails of the Comet. No Orion Skyglow LPR filter necessary. Poor positioning of the mount didn't leave me much wiggle room before the Comet headed for the trees. It was freezing out and Brenda and I had to warm up inside before breaking down the equipment. Technical problems with the mount continue to plague me but I hope to resolve them in the next few days. The Comet continues to shuttle across the sky getting closer and closer to the Pleiades. According to the weather prediction, Wednesday may be the last night before rain sets in on Thursday and Friday so we may miss the closest approach to the Pleaides.

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(Otter Point Continued from page 11)

Camera:	Fuji Finepix S2 Pro
Lens:	50/1.8 Manual Focus Nikkor
ISO Setting:	1600
Exposure:	f/2 at 80 seconds

Piggy-backed on C8 Super Polaris Mount

David

Comet Machholz at Astronomy Cafe

At Astronomy Café on Monday night, we treated Paul Schumacher, a Kingston Centre RASC member to our dark skies. He kept raving about how much he could see from Bruno's place, saying he would only see as much a couple of nights a year, even if he drove to their "dark site". We were glad to make his extended Christmas trip out here worthwhile...it looks like he might become a member of Victoria Centre in the near future!

I agree with David and Sandy, Monday night was "inky" dark. Unfortunately, Monday was an "off night" for me as far as astrophotography was concerned,

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despite it being a good night for observing (not a bad thing - Sandy!). However Bruno very graciously invited a few of us back over on Tuesday night to see what we could see. I had some very good success imaging Comet Machholz. My best shot was the close-up image (attached) taken through my LX-90 at f/6.3 using the Digital Rebel at prime focus.

Details and more images on my gallery page: http://victoria.rasc.ca/gallery/Joe/

I've also posted every image received from our Victoria Centre members to the Observer's Corner Highlights page: http://victoria.rasc.ca/observers/

I think we will have to create a Comet Machholz web page soon...keep those images coming, and I'll try to keep up!

Cheers, Joe Carr

Metchosin Comet

Ok, ignore the over-saturation in the center but it's the best I could do with my limited processing skills and software. If I darken it too much, I loose both tails. I took this on Tuesday night out at Pearson College with my 35mm SLR ISO 400 film 135mm lens 10-minute exposure tracked but not guided. I'm sure with better software the raw image could look better but I'm not there yet. Just though David and Matthew shouldn't be the only ones doing this.

I had my camera jammed (quite literally) into the finderscope brackets on the old 10" SCT. I was just feeling a little to lazy to do guiding. Also, I hadn't polar aligned very well, although, the trailing isn't totally atrocious.

Bill

Upcoming Meetings

February	Gail Conway, Malaspina College, Nebulae
March	Henk Hoekstra, UVic
April	Laura Ferrarese and Pat Cote, DAO
May	Russell Robb, U Vic
June	Members' Night

WANTED!

By the Victoria Observing Site Selection Committee

LAND!

Do you have a half acre of useless (rocky?) land with

- ☆ no lights
- ☆ road access, and
- ☆ low horizon all the way around?

Do you know someone who does, and who would be willing to sell or lease the area to RASC-Victoria?

If so, please contact Dave Bennett, Site Selection Chair, at dgbennett@shaw.ca

or by telephone at (250) 727-9509

THANK YOU!

Island Eyepiece and Telescope

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

New Members Liaison:
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!

Jan 19

Astro Imaging

Every 3rd Wednesday
at
Bill Almond's

354 Benhomer Drive
478-6718

Jan 21

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

February 9

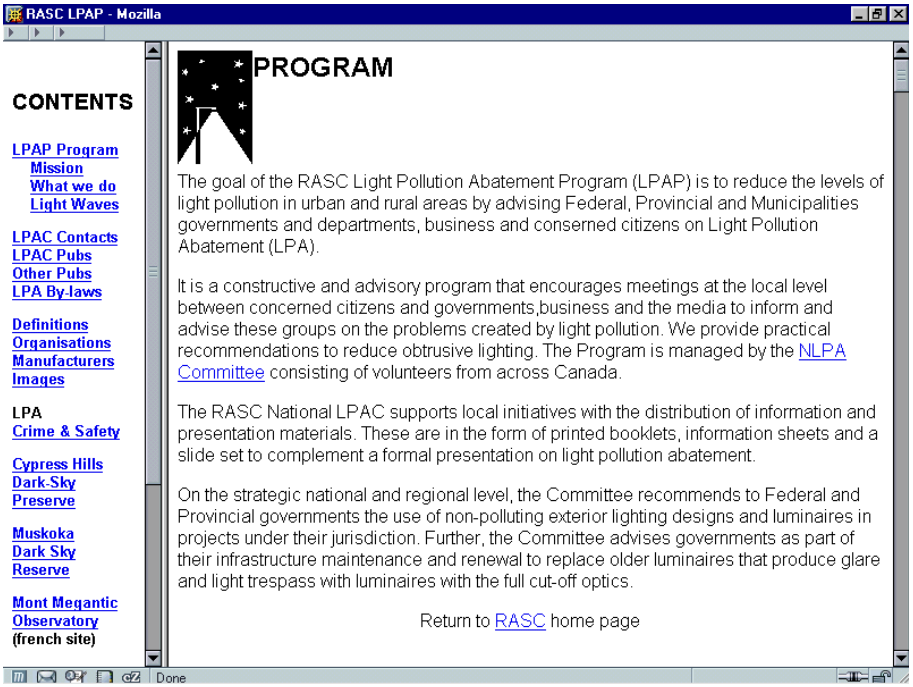
February Meeting

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



RASC Light Pollution Abatement Web Page

In 1991 the Royal Astronomical Society of Canada established its Light Pollution Abatement Committee to support measures to reduce Light Pollution. The long-term goal of the committee is to work for social and legislative changes which will result in better, more responsible lighting practices in Canada, and the preservation of the night-time environment for all to enjoy.

http://www.rasc.ca/light/home.html

RASC Centre LPA web pages:

Calgary Centre	http://www.syz.com/rasc/lp/frame.html
Edmonton Area	http://www.telusplanet.net/public/hgibbins/lightpollution
Kingston Centre	http://members.kingston.net/rasc/lpa.htm
Saskatchewan Centre	http://www.ras.sk.ca/lpc/lpc.htm

These pages include resources, links and useful documents and templates.