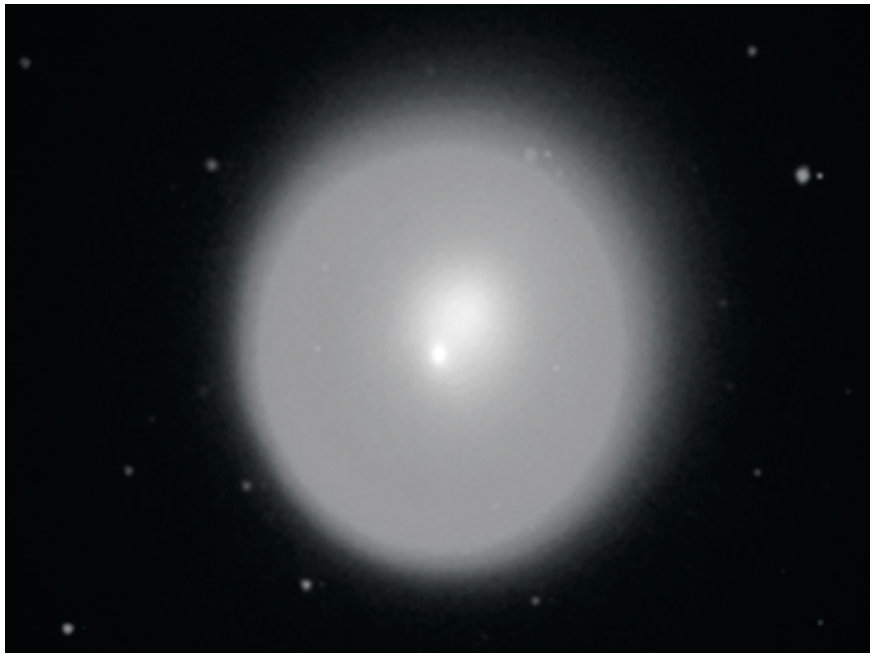
Skynews



Royal Astronomical Society of Canada ✦ Victoria Centre

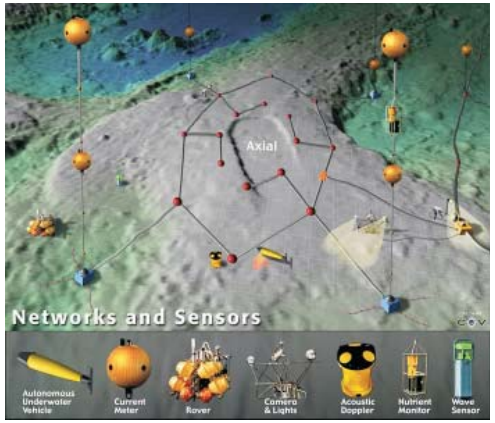
this month

Dr. Brian Bornhold

Project Neptune

November 17, Gorge Vale Golf Club.

In 2007 and 2008, NEPTUNE Canada will be installing an 800 km long regional cabled ocean observatory across the northern Juan de Fuca tectonic plate. Across the network, high resolution seismic information will elucidate tectonic processes such as earthquakes and strain, and a tsunami system will allow determination of open ocean tsunami amplitude, propagation direction, and speed.



At Endeavour Ridge, complex interactions among volcanic, tectonic, hydrothermal and biological processes will be quantified where new volcanic seafloor is created. On the abyssal plain, ODP borehole monitoring systems will track realtime changes in crustal temperature and pressure, particularly as they relate to events such as earthquakes, hydrothermal convection or regional plate strain at this mid-plate site. Experiments around Barkley Canyon will allow quantification of changes in biological and chemical activity associated with nutrient and sediment transport around the shelf/slope break and through the canyon to the deep sea.

Various experiments will monitor changes in their distribution, depth, structure, properties and venting, particularly related to earthquakes, slope failures and regional plate motions. At inshore Folger Passage, near the entrance to Barkley Sound, understanding controls on biological productivity will help evaluate the effects that marine processes have on fish and marine mammals. NEPTUNE Canada will transform our understanding of biological, chemical, physical, and geological processes across an entire tectonic plate, from the shelf to the deep sea. Real-time continuous monitoring and archiving allows scientists to capture the temporal nature and characteristics of these natural processes in a way never before possible.

on the cover

David Lee
Comet 17P/Holmes Emerging Tail
October 30 2007

On Tuesday night (October 30th) the sky was beautifully crisp with pinpoint stars. With the Moon absent Comet Holmes was even more evident, very much at home in the Perseus constellation.

Like many others, while waiting for the weather to turn I've started to do more processing on the images I have. My Tuesday night images were longer 10 second images with the DSI Pro so I hoped to discern more of the emerging tail everyone has been talking about. While I was at it I merged an image more tuned for the pseudo-nucleus.

Telescope: Televue NP101is 101mm f/5.4
Imager: Meade DSI Pro
Exposure: 10 images of 3 seconds combined with MaxDSLR; post processing in Adobe Photoshop CS2

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contact us on-line

Web Site	www.victoria.rasc.ca
New Members	newmembers@victoria.rasc.ca
General Inquiries	info@victoria.rasc.ca

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address change? information incorrect

Contact the National Office

Telephone - 416.924.7973 or toll-free in Canada 888.924.RASC
Fax - 416.924.2911
Email - nationaloffice@rasc.ca
Post - RASC, 136 Dupont Street, Toronto, ON M5R 1V2
General enquiries - natonaloffice@rasc.ca

President's Report

President's Message
November, 2007

Observatory Project
Victoria Centre members are obviously just as excited about our Observatory Project as I am. I'm pleased to report we are now over our $10,000 fundraising target - we have raised $10,275 to date!. Thank you to everyone.

Victoria Centre Council has approved purchase of a SkyShed for the site, and we have a new Project Manager: Bruno Quennville. Thanks go to Bruno for contributing his unique talents to this project. Bruno reports he has plenty of volunteers, once the construction actually starts. We expect NRC to put the paperwork in place shortly, and then we will build our observatory this Fall and Winter.

You can still contribute to the Observatory Project. We will be happy to credit next year's budget with your contribution. Please send your cheques to our Treasurer:

RASC Victoria Centre
c/o David Griffiths
333 - 1900 Mayfair Drive
Victoria, BC V8P 1P9

Make cheques payable to "RASC Victoria Centre" Tax receipts will be issued for all donations. Please refer to the Observatory Project web page for further background information and ongoing status reports about this project...and thanks again everyone!

Observing
Our members who observe visually, sketch, and take photographs were rewarded this past month will an unexpected show from Comet 17/P Holmes. Refer to Observing Highlights for our members' observations, sketches and photographs of the most interesting comet to come along in several years Observing reports posted to our RASCVic Email List were frequent as our active observers shared their enthusiasm with their

fellow members. Refer to our Zenfolio RASC Victoria Centre Astrophoto Galleries (http://rascvic.zenfolio.com/p309681991/) for photos and sketches of the comet and lots of other beautiful phenomena as well. What a talented group of observers we have in Victoria Centre!

Speaking of observing, in my role as Webmaster, I have revised the Observers Resources web page to include information about observing our Solar System - see http://victoria.rasc.ca/observers. I have also changed the layout of the page to better reflect our observers' needs and interests. As always, I'm happy to hear feedback from members about our website. Please keep in mind this is your website.

The AGM

Our Annual General Meeting for Victoria Centre is coming up on November 17, 2007. If you plan to partake of the wonderful buffet Gorge Vale Golf club always serves, please reserve your spot ahead of time. Our caterers need to know how many servings to prepare by the Monday before the event (Nov 12th), so please contact David Griffiths. Of course, the whole purpose of this event is to elect a new Council, so if you have any late nominations to propose, please contact Scott Mair, our Past President and Nominating Committee. Please refer to AGM - http://victoria.rasc.ca/events/2007/2007agm.htm for more details about this fun event.

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observers group

RASC Victoria Centre and the NRC have signed a License to Use Land Agreement which gives members of Victoria Centre expanded access to NRC property on Observatory Hill.

If you are a member in good standing of Victoria Centre RASC, consider yourself an "active observer", and wish to take advantage of this opportunity, please send an email to the 1st or 2nd Vice President. More information on this program see: http://victoria.rasc.ca

Royal Astronomical Society of Canada ✦ Victoria Centre

observatory project

Those of you who attended the special Astronomy Café which was held July 23rd at the Centre of the Universe will already know we have kicked off Victoria Centre's Observatory project fundraising.

The National Research Council has very generously agreed to give our members use of the old 16" site on Observatory Hill for the purpose of a Victoria Centre Observatory. They have also agreed to contribute $5,000 to our Observatory Project for 2007, and they have further agreed to provide telephone, ADSL Internet, and electrical services at no cost to us on an ongoing basis. NRC and Victoria Centre have mutually agreed to build a 10'x14' SkyShed on this site.

John Mcdonald and Sid Sidhu opening

Many active observers already make good use of the old 16" site under our License to Use Land Agreement with NRC, but having an observatory on this site is a milestone for Victoria Centre.

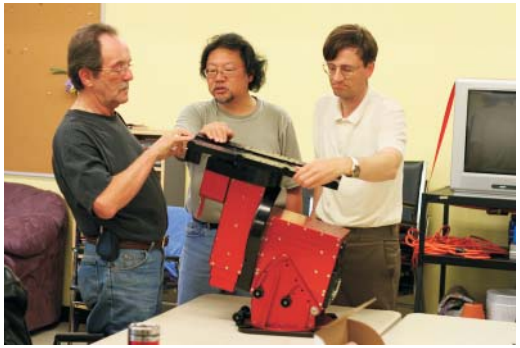
Victoria Centre Council has endorsed the project budget for 2007 and approved purchase of a Paramount ME robotic mount. This mount was purchased directly through Software Bisque, who very generously took US$500 off the price due to our non-profit status. On August 6th we had a Paramount ME Box Opening event at another special mid-summer Astronomy Café. This mount gives us a superb tracking platform upon which to build our robotic telescope atop Observatory Hill.

Alex Schmid , Sid Sidhu, Joe Carr and John McDonald checking-out the counter weights

The 2007 budget will be used to pay for our share of the observatory infrastructure:

- part of the cost of the SkyShed not covered by

NRC's contribution
- building the pier - both the concrete base and the steel pier itself
- wiring installation for hydro, telephone and Internet service



Bruno Quennville, David Lee and Alex Schmid with the Paramount ME robotic mount.

In order to keep our 2007 budget within our means, this year's budget does not include a telescope - that comes next year. Several members have offered to donate use of their scopes in the interim. The current budget as tabled at the Sept 19th Council Meeting is available at: http://victoria.rasc.ca/observatory/Default.htm

Please note the expenditure on the Paramount ME came under budget saving us $1,383.28, and our Fundraising has yielded $10,275, which exceeds our budgetary target of $9.800 by $475. This keeps the project budget in good shape, and may allow us to recast the budget to include other goodies once we have the SkyShed and other planned infrastructure in place.

A special thank-you must go to our two vice presidents, Sid Sidhu and John McDonald for the significant amount of work they have put into this project to date, to Brunno Quennville for his work on developing observatory design proposals and coordinating the construction of the SkyShed, to all the members that contributed to the fundraising effort and to Joe Carr for spearheading this whole project; without their efforts, this project would not be happening.

Ed Maxfield taking a close look at the mount

job jar

If you are a member and wish to volunteer for one of these jobs, please contact the Council member indicated below.

Social Coordinator at General Meetings After Victoria Centre's monthly meetings, many members adjourn to the Astronomy Lounge in the UVic Elliott Building for some socializing. We need someone to make tea and coffee and ensure there is a supply of cookies available. Skills: food shopping, making tea and coffee. 1 hr/mo. Sid Sidhu

Star Party Coordinator Victoria Centre's Annual Star Party is planned to be held August 29-31, 2008 at Victoria Fish and Game Association's property atop the Malahat. We need someone to act as overall coordinator for this event, and to report to Victoria Centre Council on a regular basis. Bruno Quennville is our former Star Party Coordinator, and is willing to help the new person for the first year
Skills: people and organizational skills. 2 hrs/mo, 3 full days during the event. See Bruno Quennville for info.

Rasc calendars

2008 RASC Observers Calendars are now available of only $15 (it's $22 if you order it from the national website). You can purchase your calendar at our Monthly meetings and by contacting David Griffiths at treasurer@victoria.rasc.ca

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Nominations

This years 2007 Annual Dinner and General Meeting is schedule for Saturday, Nov. 17 at the Gorge Vale Golf Club.
This announcement is to serve " as formal notice " of our early November elections. Positions in Council include: Secretary, Treasurer and possibly various others. All individuals seeking nomination and wishing to serve are ask to contact Past-President Scott Mair or former Past President David Lee for further details.

AGM

Victoria Centre RASC- AGM and Dinner Meeting

Saturday, November 17, 2007
Cocktails 6:15, Dinner 7:00, Speaker 8:30
Gorge Vale Golf Club, 1005 Craigflower Road, Victoria

The cost is $30.00 per person. The total number of dinners must be confirmed with the venue by Monday, November 12.

Confirm your seat by email (treasurer@victoria.rasc.ca) or by phone (David Griffiths at 250-595-7494) - tickets confirmed by email or phone may be paid at the door - by cash or cheque.

The Red (Hot?) Planet

by Patrick L. Barry

Don't let Mars's cold, quiet demeanor fool you. For much of its history, the Red Planet has been a fiery world.

Dozens of volcanoes that dot the planet's surface stand as monuments to the eruptions that once reddened Mars's skies with plumes of glowing lava. But the planet has settled down in its old age, and these volcanoes have been dormant for hundreds of millions of years.

Or have they? Some evidence indicates that lava may have flowed on Mars much more recently. Images of the Martian surface taken by orbiting probes show regions of solidified lava with surprisingly few impact craters, suggesting that the volcanic rock is perhaps only a million years old.

If so, could molten lava still occasionally flow on the surface of Mars today?

With the help of some artificial intelligence software, a heat-sensing instrument currently orbiting Mars aboard NASA's Mars Odyssey spacecraft could be just the tool for finding active lava flows.

"Discovering such flows would be a phenomenally exciting scientific finding," says Steve Chien, supervisor of the Artificial Intelligence Group at JPL. For example, volcanic activity could provide a source of heat, thus making it more likely that Martian microbes might be living in the frosty soil.

The instrument, called THEMIS (for Thermal Emission Imaging System), can "see" the heat emissions of the Martian surface in high resolution—each pixel in a THEMIS image represents only 100 meters on the ground. But THEMIS produces about five times more data than it can transmit back to Earth.

Scientists usually know ahead of time which THEMIS data they want to keep, but they can't plan ahead for unexpected events like lava flows.

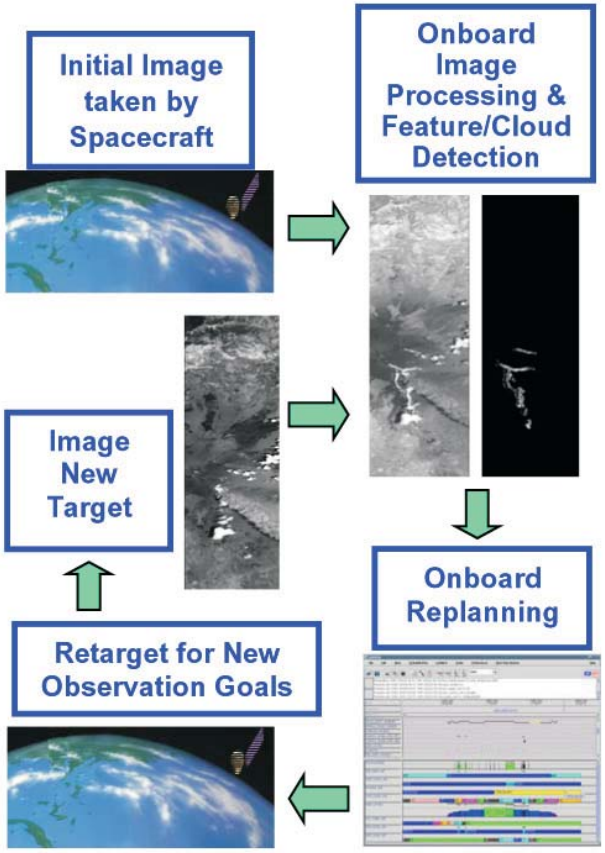
So Chien and his colleagues are customizing artificial intelligence software called ScienceCraft to empower THEMIS to identify important data on its own.

This decision-making ability of the ScienceCraft software was first tested in Earth orbit aboard a satellite called Earth Observing-1 by NASA's New Millennium Program. Earth Observing-1 had already completed its primary mission, and the ScienceCraft experiment was part of the New Millennium Program's Space Technology 6 mission.

On Odyssey, ScienceCraft will look for anomalous hotspots on the cold, night side of Mars and flag that data as important. "Then the satellite can look at it more closely on the next orbit," Chien explains.

Finding lava is considered a long shot, but since THEMIS is on all the time, "it makes sense to look," Chien says. Or better yet, have ScienceCraft look for you—it's the intelligent thing to do.

To learn more about the Autonomous ScienceCraft software and see an animation of how it works, visit http://ase.jpl.nasa.



Just as changing cloud patterns on Earth were identified using Earth Observing-1's Advanced Land Imager along with ScienceCraft software, the THEMIS instrument with ScienceCraft on the Mars Odyssey spacecraft can avoid transmitting useless images.

RASC victoria council

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Members at Large
Bill Almond, Dave Bennett, Jim Hesser, Ed Maxfield, Colin Scarfe, Chris Gainor, Norm Willey

New Member Liaison
Sandy Barta
newmembers@victoria.rasc.ca

this month

monday nights

Astronomy Cafe
Fairfield Community Centre,
1330 Fairfield, Victoria
7:30-11pm
Call John at 250.480.0928 for directions and information.
New comers are especially welcome. Come and enjoy!

second wednesday of the month

Monthly Meeting
7:30 PM, Elliott Lecture Theatre, Rm 060, UVic.

as sky and interest dictate

New Observers Group
Hosted by Sid Sidhu.
1642 Davies Road, Highlands.
Call 391-0540 for information and directions.

by email

Observer/CU Volunteers/ Members email lists
Contact Joe Carr to subscribe to these email lists for important, timely, member-related news.