

skynews



this month

Annual General Meeting and Dinner

Saturday, November 14, Gorge Vale Golf Club, 1005 Craigflower Road

6:15pm - COCKTAILS - no host bar

7:00pm - DINNER - Cost of dinner is \$35.00 per person, inclusive of all taxes and gratuities Payment is only required for a meal.

Attendance at both the speaker presentation and the business meeting is free of charge.

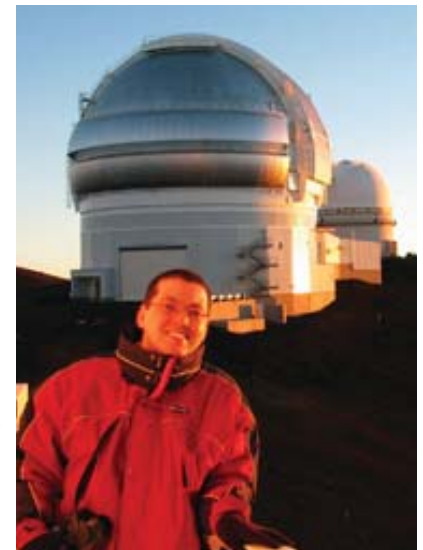
The total number of dinners has to be confirmed by Monday, Nov 9. Please reserve your spot before that date, by sending email to Li-Ann Skibo at: Treasurer@Victoria.RASC.ca Please pay at the door - by cash or cheque

8:30pm - SPEAKER

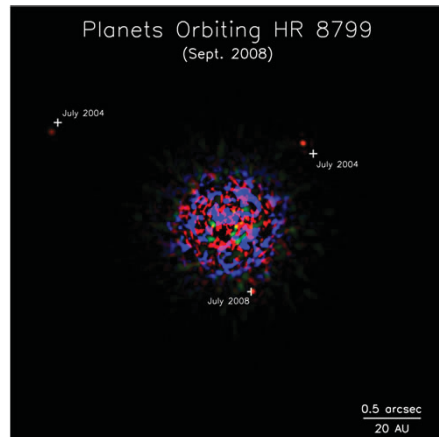
Celebrating 400 years of the telescope with the first image of another Solar System - Dr. Christian Marois, HIA

Are there Earth-like planets orbiting other stars? Is there life elsewhere in the Universe? Humanity has been waiting for more than 2,000 years for an answer to these questions. With his invention, the telescope, Galileo Galilei saw for the first time another "mini" planetary system - it was Jupiter and its moons. After 400 years of technological achievements, we now have large enough telescopes and good enough instruments to directly image planets orbiting other stars.

For the past 8 years, Dr. Marois and his team have been using the



world's biggest telescopes to search for planets orbiting nearby young stars. He will describe the path that we have followed that led, in 2008, to a breakthrough discovery - the first images of a multi-planet system. This three Jupiter-like planets system, called HR 8799bcd, is located 130 light years from Earth. This detection marks a crucial first step in the ultimate quest of finding a life-sustaining Earth-like planet orbiting another star.



Bio: Dr Marois completed his Ph.D. at the Université de Montréal in 2004. The main topic of his thesis work was speckle/noise suppression for direct exoplanet imaging using advance image processing techniques. After completing his first postdoctoral project at the Lawrence Livermore National Laboratory in California and a brief research assignment at the University of California Berkeley late 2007, he became a research associate early 2008 at the NRC Herzberg Institute of Astrophysics. He now splits his research time between developing the next generation exoplanet imager, the Gemini Planet Imager, and pursuing an exoplanet imaging survey using currently available instruments. In 2008, Dr Marois led the team that took the first image of another planetary system, the HR 8799bcd three planets system. This achievement was selected as the runner-up for best scientific discovery of 2008 by Science magazine. Dr Marois and his Canadian collaborators were also named the “2008 scientist of the year”, a distinction given annually by the French CBC.

on the cover

Charles Banville **Mount Baker and Moon**

October 4, 2009 at 18:42 PDT, Mt. Tolmie, Victoria, BC

Optics: Borg 77EDII at f/4.3 on Tripod

Camera: Canon 20Da

Exposure: One single RAW image of 1/400s. ISO 400

President's Report

President's Message **November, 2009**



We did it!

I am writing this on Sunday, November 1, the day we passed the 20,000 Galileo Moments (GMs) mark. My congratulations go out to Sid and every volunteer from our Center, the Centre of the Universe and NRC as well as UVic who contributed to this achievement. When National President, David Lane was here last month he commented that there were easy GMs and hard ones. Most of ours were the hard earned kind. It mattered to all of us that those who stopped at our displays, attended one of the night sky viewing events or the many sidewalk astronomy opportunities were able to really interact and take away more than the card or Starfinder we offered. I think we gave a good many of them a significant peek into the wonder of the sky and we let them know how welcome they were to join in sharing our passion for it.

The actual moment when we passed of the 20,000 mark occurred sometime today at a spectacular concert by the Victoria Symphony Orchestra. Tania Miller, her orchestra and the Women of the Victoria Choral Society did a marvellous performance of The Planets by Gustav Holst with the most stunning visuals I have ever seen by Dr. José Francisco Salgado from the Adler Planetarium in Chicago. A very big thank you to Jim Hesser who played a key role in making this happen.

We could never have done this without Sid's drive and vision, and as Sid will be sure to add it would not have happened without you volunteers either.

John McDonald

Nominations

This year's 2009 Annual General Meeting and Dinner is scheduled for Sat. Nov. 14, 2009 at the Gorge Vale Golf Club in Victoria.

This announcement is to serve as formal notice of our elections. Positions on Council include: President, First Vice President, Second Vice President, Secretary, and Treasurer. Although incumbents have indicated they will stand for a second year's term, any other members seeking nomination and wishing to serve are ask to contact Past-President Joe Carr for further details.

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 Vice President. More information on this program see: <http://victoria.rasc.ca>

contact us on-line

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



upcoming events

Saturday, November 14, Gorge Vale Golf Course, **Annual General Meeting and Dinner**. Guest Speaker: Dr. Christian Marois, HIA. Dr. Marois will be speaking about his findings and imaging of extra-solar planets. See page 2 for details.

Nov 24, 2009 at 6:30pm - **Night Sky Viewing at Cattle Point** - 400 years ago Galileo first gazed at the first quarter moon and for ever changed our view of the cosmos. To celebrate this event the Victoria Centre is hosting a public viewing event at Cattle Point.

Nov 1-30, 2009 - **Neighbourhood Sidewalk Astronomy** - locations and time to be decided by each volunteer. Keep watch for this event coming to your neighborhood.

Dec 4, 2009 6:30pm - **Night Sky Viewing at Cattle Point** - in conjunction with the Sea of Lights event by the Royal Victoria Yacht Club.

Staring at Lightning

There's something mesmerizing about watching a thunderstorm. You stare at the dark, dramatic clouds waiting for split-second bursts of brilliant light — intricate bolts of lightning spidering across the sky. Look away at the wrong time and (FLASH!) you miss it.

Lightning is much more than just a beautiful spectacle, though. It's a window into the heart of the storm, and it could even provide clues about climate change.

Strong vertical motions within a storm cloud help generate the electricity that powers lightning. These updrafts are caused when warm, moist air rises. Because warmth and lightning are inextricably connected, tracking long-term changes in lightning frequency could reveal the progress of climate change.

It's one of many reasons why scientists want to keep an unwavering eye on lightning. The best way to do that? With a satellite 35,800 km overhead.

At that altitude, satellites orbit at just the right speed to remain over one spot on the Earth's surface while the planet rotates around its axis — a “geostationary” orbit. NASA and NOAA scientists are working on an advanced lightning sensor called the Geostationary Lightning Mapper (GLM) that will fly onboard the next generation geostationary operational environmental satellite, called GOES-R, slated to launch around 2015.

“GLM will give us a constant, eye-in-the-sky view of lightning over a wide portion of the Earth,” says Steven Goodman, NOAA chief scientist for GOES-R at NASA's Goddard Space Flight Center. Once GLM sensors are flying on GOES-R and its sister GOES-S, that view will extend 18,000 km from New Zealand, east across the Pacific Ocean, across the Americas, and to Africa's western coast.



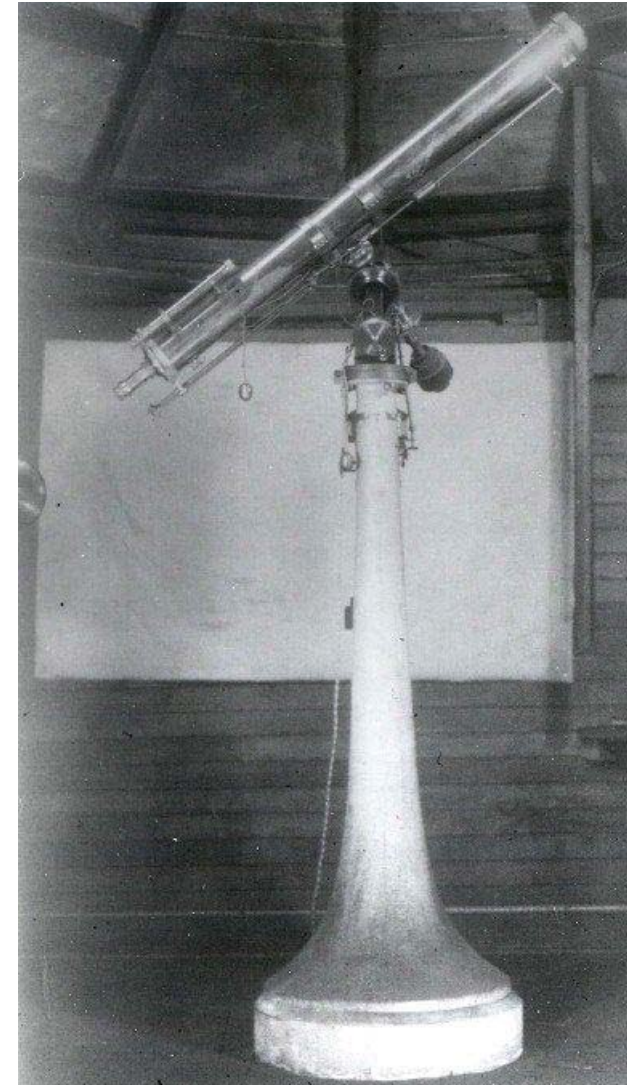
The Geostationary Lightning Mapper (GLM) on the next generation of GOES satellites will detect the very rapid and transient bursts of light produced by lightning at near-infrared wavelengths. This image was taken from the International Space Station and shows the Aurora Australis and lightning.

With this hemisphere-scale view, scientists will gather an unprecedented amount of data on how lightning varies from place to place, year to year, and even decade to decade. Existing lightning sensors are either on the ground — which limits their geographic range — or on satellites that orbit much closer to Earth. These satellites circle the Earth every 90 minutes or so, quickly passing over any one area, which can leave some awkward gaps in the data.

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THE CENTRE'S WRAY-BRYDON TELESCOPE

The Centre's showpiece telescope is a clock-driven 100 mm refractor on an equatorial mount. It can be seen in all its glory at the Centre of the Universe where it enjoys a good home and revels in the attention given it by thousands of admiring eyes. And it goes without saying that it has an interesting history. We know a great deal about its provenance thanks to Dr. Kenneth O. Wright, a staff member at the DAO and Victoria Centre president from 1964-66. The telescope's owner, H. Boyd Brydon, aided Dr. Wright in his research and the following is an abridged record of its history.



Who Made the Telescope?

Wray, a famous London lens-maker, made the 4-inch main lens, and marked it “Wray, London”. It gives beautiful definition. James Foster

made the telescope tube and engraved it with his mark: “J. Foster, 40 Colbourne St., Toronto. “Stewart of London” made the equatorial mounting and the clock drive.

The Telescope’s History

Allan Frederick Miller, a past president of the Astronomical and Physical Society of Toronto, bought the telescope in 1882. That society was the predecessor of the Royal Astronomical Society of Canada, which obtained its royal charter in 1903 with Miller as one of its charter members.

The telescope is at least twenty years older than the RASC. In 1931, Millar lost his sight and he sold the telescope to H. Boyd Brydon, who was Victoria Centre president from 1934-36. Miller had used the telescope for serious research and published several papers on his observations and spectroscopic studies. Boyd Brydon mounted the telescope in his Oak Bay observatory and added the spectroscope and grating so he could observe solar prominences.

On October 1, 1943, the Victoria Centre purchased the refractor from Boyd Brydon but it remained on his property until he died in 1947. In 1949, the Centre renamed the telescope the “Wray-Brydon” telescope in Brydon’s honour. In 1966 the Centre mounted the telescope in the Elliott Building’s roof observatory at the University of Victoria, then in 1973 it was moved from the roof into storage inside the Elliott Building. Installed in the Centre of the Universe

On June 9, 2001 it was unanimously agreed by the Victoria Centre and the Centre of the Universe that the historic scope should be taken out of storage and placed on permanent public display alongside other exhibits in the C.U’s main hall.

Telescope and Mount

The telescope tube is brass and the equatorial mounting is brass and gunmetal. A massive 5’6” cast iron pillar guarantees the telescope’s stability. When it was originally set up in Victoria the mounting was completely overhauled by S. S. Girling, a former instrument maker at the DAO. At that time a ball thrust bearing was fitted to the polar axis and new clamps and slow-motion mechanisms provided better control from the eyepiece location.

Clock Mechanism

Hour and declination circles are graduated on silver and are provided with verniers to read to five seconds of time and one minute of arc respectively. The hour circle is of Airy’s design, which permits setting the telescope on the desired object without calculation. Both circles are fitted with microscopes and illuminated by low voltage lights. The clock drive is weight driven and an adjustable governor controls its speed. The astronomer reads the fine right ascension and declination markings with small, illuminated magnifying lenses.

Accessories

Seven eyepieces and a Barlow lens compliment the telescope. The finder scope has illuminated cross hairs (illuminated cross hairs were still a luxury in Dr. Wright’s day). Accessories belonging with the telescope are as follows: a Herschel wedge diagonal for solar observation; prism star diagonal; Hilger 5-prism McLean spectroscope that fits on the eyepieces; Simms filar micrometer with two eyepieces, position circle and graduated micrometer head with illuminated cross hairs, and a Browning spectroscope with an original Rowland-Brashear grating ruled with 14436 lines in a 25-mm square space of speculum metal. The grating is mounted on a graduated rotatable stage with a tangent screw. The spectroscope has an adjustable slit to fine tune the image.

Bill Almond

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Goodman explains: “Low-Earth orbit satellites observe a location such as Florida for only a minute at a time. Many of these storms occur in the late afternoon, and if the satellite’s not overhead at that time, you’re going to miss it.”

GLM, on the other hand, won’t miss a thing. Indeed, in just two weeks of observations, GLM is expected gather more data than NASA’s two low-Earth orbiting research sensors did in 10+ years.

The new data will have many uses beyond understanding climate change. For example, wherever lightning flashes are abundant, scientists can warn aircraft pilots of strong turbulence. The data may also offer new insights into the evolution of storms and prompt improvements in severe weather forecasting.

address change? information incorrect

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RASC victoria council

*this month
monday nights*

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Astronomy Cafe

Fairfield Community Centre,
1330 Fairfield, Victoria
7:30-11pm

Call Geoff at 250.592-2264 for directions and information. New comers are especially welcome. Come and enjoy!

ASTRONOMY CAFE



second wednesday of the month

Monthly Meeting

7:30 PM, Elliott Lecture Theatre,
Rm 061, UVic.

as sky and interest dictate

New Observers Group

Hosted by Sid Sidhu.
1642 Davies Road, Highlands.
Call 250.391-0540 for information and directions.

Observer/CU Volunteers/

Members email lists

Contact Joe Carr to subscribe to these email lists for important, timely, member-related news.

by email