

NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC
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Clear, Dark Skies at 33° N

by Alan Jones

My wife and I and our dog "Star" just returned from a winter road trip to southern California. We repeated a similar trip we took two years ago.

I recommend it highly to anyone that enjoys observing, pleasant weather and doesn't mind some remote camping. On the previous trip, we discovered the Very Long Baseline Array radio telescope station at Bishop, California. This year we ventured above Bishop to the east and discovered

Inyo National Forest where the Bristlecone Pines grow, the oldest living trees on the planet. We drove to 9500 feet and walked the rest of

the way to the pines, starting around 10,000 feet. We could feel the shortness of breath. It didn't bother me because I was so excited about



observing at such a high altitude that night and I wasn't disappointed.

The campground is known for use by amateur astronomers and the

signs request limited use of lights after dark. It was not an issue as we were the only visitors. The north wind was cold at 0° C. The skies

were beautiful and dark, no light domes in any direction other than the zodiacal light after sunset! By 6:30, I was setup and looking at the Orion nebulae. I confirmed the supernova in M82 is still present but much diminished from two weeks before. It was

different trying to get used to seeing Orion so high and Polaris so low. Just for fun I peered at Jupiter to be

continued on page 5

MARCH 13

Ingrid Stairs of UBC: A Pulsar with Two White Dwarf Companions. Trotter Studio (room C9501). See map on page 4 or Meetup.

SFU

SFU

APRIL 10

A special Members-Only night at the Space Centre, featuring a free show in the Planetarium. RSVP required. See Meetup for details.

HRMSC

HRMSC
SPACE
CENTRE

MAY 8

Meeting details TBA. Watch for updates.

SFU

SFU



Supernova in M82 by Harvey Dueck

Taken on Feb. 28 from East Vancouver. Note the yellow colour of the supernova (indicated with blue markers) which may be due to reddening from dust in M82's galactic plane.

President's Message

Spring is as close as M42—relatively speaking of course.

As I write this message, the rains have stopped and I can almost feel the sun. It has been a long wet spell here on the west coast. Not all has been lost as there have been a few observing events hosted by our volunteers in the past few months. It is always nice, when we can, to see the familiar treasures in the night

sky and a few bonus spectacles as well like the supernova. It is true that our clear nights have been very rare so far this year due to our famous west coast cloudy weather but make sure you are ready to go, your scope is ready to go and you are connected with the Meetup site for last-minute observing events. They do pop up quickly.

I am very excited at the activity

at the AOMO. Alan Jones, the director of the observatory, has put forward a comprehensive plan to revitalize the site, the building and the equipment. Council has unanimously provided Alan and his team of volunteers the funds and support to get this project moving forward. Bringing back the observatory to life where members

continued on page 4

by Mark Eburne

About RASC

The RASC Vancouver Centre meets at 7:30 PM on the second Thursday of every month at various locations in Metro Vancouver (see page 1 for meeting locations and page 4 for maps). Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently \$73.00 per year (\$41.00 for persons under 21 years of age) and can be obtained by writing to

the Treasurer at the address on page 5. Annual membership includes the invaluable Observer's Handbook, six issues of the RASC Journal, and, of course, access to all of the club events and projects.

For more information regarding the Centre and its activities, please contact our P.R. Director.

NOVA, the newsletter of the Vancouver Centre, RASC, is published on odd-numbered months. Opinions expressed

herein are not necessarily those of the Vancouver Centre.

Material on any aspect of astronomy should be e-mailed to the editor or mailed to the address below.

Remember, you are always welcome to attend meetings of Council, held on the first Thursday of every month at 7:30pm in room P8445.2 of the Physics wing of the Shrum Science Centre at SFU. Please contact a council member for directions.

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Library

The centre has a large library of books, magazines and old NOVAs for your enjoyment. Please take advantage of this club service and visit often to check out the new purchases. Suggestions for future library acquisitions are appreciated.

On the Internet

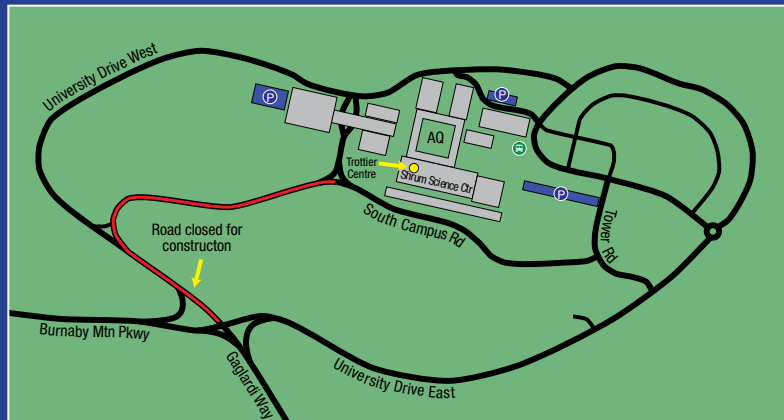
<http://rasc-vancouver.com> or
<http://www.rasc.ca/vancouver>
<http://astronomy.meetup.com/131/>
<http://www.facebook.com/RASC.Van>

 @RASCvancouver

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Maps to Meeting Sites



SFU

Our March meeting is in the Trotter Studio, room C9501 in the Chemistry Building of the Shrum Science Centre (indicated by the arrow on the map at left).

Pay parking is available at several locations around campus (indicated as "P" on the map).

continued from page 3

can learn and explore any time in comfort and safety is something we are all working towards. Now is your chance to get involved. Talk to Alan or any of the councillors and find out how you can contribute.

We are starting to put plans together for another big Astronomy Day event at SFU on May 10, 2014. With over 600 people attending last year, it is one of the larger events we put on. Watch for more details on our website and newsletters. This year will be bigger than ever.

There are a few new council members now working hard behind the scenes to make this centre roll along. Our membership is stable and has grown with family memberships this year. I even see new RASC mugs for sale. Get them while they are still here.

It is never too early to start thinking about our National General Assembly this year being held in our own back yard, Victoria, BC. The GA is always a great event to attend, meet members from the other centres and of course chat

with your National board. The guest speaker talks and various presentations are all outstanding to take in. Registration is now open so check out the website for further details. Hope to see you in Victoria at the end of June.

Enjoy the clear skies as they happen and remember to share your photos with us. We love posting them. *

Clears Skies,
Mark Eburne
President, RASC Vancouver Centre.

cartoon by Dan Collier



continued from page 1

rewarded for my trouble by a shadow transit. Later, I watched Io tuck in behind. It was delightfully easy to find targets and I'm enjoying Sky Safari Pro in night view on the iPod. We took in NGC 2903, the crab (M1), whirlpool (M51) and more. Andromeda looked pretty good considering it was low in the northwest. I was pleased that I could keep my audience entertained without waiting too long for the next target. The next morning, we got up before dawn and had a

look at Saturn. The Cassini division is easy to resolve as it is really tipped with the rings passing well above the pole now. I watched it well into the dawn light. We saw five planets that day.

Several days later, we visited a site north of Borrego Springs that we discovered two years ago. Borrego

Springs is a desert community with fruit farms and golf courses. It's so hot there in summer, camping is not allowed in the park. One of the fruit farmers told us 120° F in the summer. The community has international dark sky status. I



was impressed two years ago and it remains impressive that, with effort, our sky needn't be light polluted. The nature store promotes and sells dark sky outdoor lights.

Our observing experience was similar to the Inyo night but with some light domes and moisture in the lower parts of the sky in the NW.

Virgo was amazingly clear and it was easy pickings to find Markarian's chain. I centred the Siamese twins and then suggested moving the scope in any direction and tell me what you see. To my delight I hear "there are galaxies everywhere". It

was very good contrast and seeing that night and pleasant temperatures above 10 C. Just for fun, I texted Mark Eburne to let him know how great the observing was and he informed me it was snowing at home. And to finish the night, with neutral

filter I saw another moon ingress on Jupiter. Couldn't have planned it better. I would be happy to share the specifics of either location with anyone interested. By the way, Mark, it was 28° C the next morning at 8:30 am and thanks for getting up early to watch the game and let me know Canada won gold! ★

Membership has its Privileges!

New members, did you know? The Vancouver Centre has 8 telescopes available for loan free of charge! We have telescopes ranging from 60mm to 10" diameter. For more information see the Director of Telescopes after the members meeting. The loaner period is for one month, to be returned after the next meeting. Telescopes are not allowed to circulate outside of these meetings. You

can now reserve two different telescopes per year and use what is left at the end of the meeting anytime.

Your greatest opportunity as a member of the RASC is to take advantage of the company of other enthusiasts to increase your knowledge, enjoyment and skill in astronomy.

The best thing you can do to gain the most from your membership is to get ac-

tive! Take in the club meetings; engage other members with questions; come out to observing sessions (also known as "star parties"), and, by all means, volunteer to take part in our many public events.

For the usual observing sites and times, visit our website at <http://rasc-vancouver.com/observing-sites/> or contact the Observing Chair at observing@rasc-vancouver.com.

Upcoming Events

March

22 – Night Quest at Pacific Spirit Park

May

10 – International Astronomy Day at SFU

June

25 - 30 – RASC GA in Victoria

July

July 26 - Aug. 3 – Mt. Kobau Star Party

August

23 - 31 – Merritt Star Quest

December

11 – AGM

Time for “T”

One of my all-time favourite astronomy books is *Starlight Nights* by Leslie Peltier (1900-1980). My copy, well-worn by decades of use (it was published in 1965), occupies a prime spot in my bookcase, and I return to it for inspiration frequently. For those of you who may not know who Leslie Peltier was, he was an Ohio-born amateur astronomer who made several hundred thousand variable star observations over his lifetime and discovered many comets. Few people before or since have known the sky as well as he did. No one has ever written about a love of astronomy more passionately than he did in *Starlight Nights*.

Our story begins in 1866, when a faint star in Corona Borealis suddenly brightened to 2nd magnitude. For several weeks it was one of the brightest objects in its region of the sky, rivalling Alphecca, Corona's principal star. Eventually it faded to 10th magnitude, becoming invisible except in telescopes. Subsequent analysis revealed it to be a recurrent nova, which meant that it was likely to repeat this spectacular performance again. It was given the official variable star designation, T Coronae Borealis.

When Leslie Peltier learned

of this interesting object many years later, he decided to make T Coronae Borealis a regular part of his variable star observing program. And so, on every clear night for more than 25 years, when Corona Borealis was easily visible, he pointed his telescope that way to see whether T was stirring. He noted occasional minor variations in its light output but nothing like the 1866 outburst. “Then, one night in February 1946,” he writes, “it stirred, slowly, opened its eyes, then quickly threw aside the draperies of its couch, and rose!”

A variable star observer's dream right? Not quite.

“I had set the alarm for 2:30 am intending to get up and observe some early morning variables,” he recalls. “The alarm clock did its part. I looked out the window and the stars were clear and bright. But apparently I was not, for I sneezed once or twice and got the feeling I was coming down with a cold. So I went back to my warm bed. Thus I missed the night of nights in the life of T Coronae.

“I alone am to blame for being remiss in my duties,” he concludes sadly. “Nevertheless I still have the feeling that T could have shown me more consideration. We had been friends for many years; on

thousands of nights I had watched over it as it slept and then it arose in my hour of weakness as I nodded at my post. I still am watching it, but now it is with a wary eye. There is no warmth between us anymore.”

Sixty-six years since its last outburst, T Coronae Borealis continues to be closely monitored by observers all over the world—and above by space telescopes. To say it's overdue for another eruption is to state the obvious.

Corona Borealis (the Northern Crown, i.e. Arianne's Crown, according to legend) is prominent on summer and fall evenings, midway between Bootes and Hercules. Need I urge you to check out this famous star, even if you just glance in its direction with your eyes alone or with binoculars?

A new edition of *Starlight Nights* by Leslie Peltier, with a foreword by David Levy and photos from the Peltier family archives, is available at Sky Publishing for US\$19.95 plus shipping and taxes. ★

David A. Rodger is a Life Member of the RASC, and has been an active amateur astronomer since the great Mars Opposition of 1956.

Status Report on the SFU Observatory

by Howard Trottier

At long last, the SFU Astronomical Teaching and Public Outreach Observatory is moving from concept to construction, so this is a good time for a status report! Some of the information that you'll find

scope is big and fast: a 0.7m (27") aperture at $f/6.8$, with a razor sharp imaging circle 70mm in diameter (the spot size at that distance from the optical axis is a mere 6.8 microns). The field of view will be just shy of 0.75°

is planned for October.

Thanks to the amazing piece of real estate provided by SFU, the form and scope of the project has been propelled in directions far more ambitious than any of us could have conceived of just



in this article is already in the public domain—in particular, some of the renderings shown here were unveiled at a public ceremony in January. On the other hand, a lot of this stuff is not yet public, so please don't get me in trouble by spreading the news too widely ;).

Here's the surest sign of progress: the dome and the telescope have been ordered, with delivery expected at the end of August! The dome is a 20-foot Ash Dome, and the telescope is the PlaneWave CDK700. The

using a 16 megapixel camera with 9-micron pixels! The scope has an alt-azimuth direct-drive mount, dual Nasymth focus, and built-in field derotator. A tender for the prime contractor will go public within weeks, now that the genuine architectural drawings (electrical, mechanical, plumbing, plantings, etc.) are ready. Construction should start at the end of April or beginning of May, with the facility expected to be ready for first-light and operational shakedown in September. A public opening

a few years ago. More than an observatory, the site will be a new focal point for campus life, with a landscape architecture that will have a significant impact on the look and feel of the Burnaby campus, and which will amount to a very public statement of the central role of science in society.

The site is a grassy rectangle just east of the Academic Quadrangle, the central feature of Arthur Erickson's original campus design (the interior of the AQ is considered hallowed

continued on page 8

continued from page 7

ground at SFU). The site is roughly 25m north-south by 60m east-west, and is alongside the principal pedestrian pathway that runs the length of the east-west axis of the campus. Thousands of people will pass by the observatory every day.

eliminated on observing nights. While we must contend with the surrounding campus and suburban light pollution, we can also look forward to some non-trivial compensation owing to the big aperture!

The actual configuration of the landscaping (at least in the

the AQ courtyard). The top surface of the plinth will have etchings that trace the structure of the universe on a logarithmic (or powers of ten) scale, from the subatomic realm to the cosmic horizon. The sides of the plinth will have slits illuminated by low-level colour LEDs that



The site will be transformed into a science plaza, with the observatory as its focal point. It will have design elements that are meant to represent our scientific understanding of the cosmos, and that are meant to convey some of the wonder of the night sky. It will also have elements to turn the site into a campus destination and communal meeting space. While easy access to a public observatory necessitates a compromise in terms of light pollution, local lighting at the site will be all but

project's first phase) will depend on the total project cost as determined by the contractor, in consultation with SFU Facilities Management, which is heading up the project, and the architectural team (PWL partnership for the landscape architecture and overall vision for the site, and Kasian for the observatory building architecture). One of the main architectural elements is a concrete plinth or bench that runs the length of the site (and will eventually be extended into

represent the visual part of the spectrum of some important elements, like hydrogen and helium. The site will have an 8-foot high berm with an open path through its centre; the berm is meant to represent an ancient observatory with a "slit" through which to observe the movement of the celestial sphere. The current design calls for realistic seasonal star charts to be etched into the concrete walls of the path through the berm, with the stars to be faintly illuminated at

continued on page 9

continued from page 8

night. The exterior wall of the observatory next to the entrance is expected to feature a mosaic portraying an element of First Nations astronomical knowledge (possibly a lunar calendar for 2014, the year of the observatory opening). The design also calls for a large sundial, and the site will eventually have three large community tables, each seating about twenty people. “Star” tables seating 4 or 5 people are also planned for several spots on the site.

The opening of the observatory will bring the partnership between SFU and the RASC Vancouver to a new level. At the January unveiling of the concept drawings for the observatory site, SFU’s Vice President of Advancement, Cathy Daminato,



The observatory will be located in the outlined area, east (right) of the AQ

singled out RASC Vancouver in her public remarks as the project’s principal community partner. In return for RASC Vancouver volunteer support at SFU’s public star parties, and its technical support in the

operation of the observatory for students and the public, a portion of the observatory programming will be set aside for Vancouver Centre’s own purposes. We are about to get very busy! ✨



Paul Skyes Lecture with William Borucki



Visiting TRIUMF (above, right)



Signing a Kepler model (below)



Meet-and-greet with RASC members (above) and lecturing about the Kepler mission (below)



Revitalizing our Vancouver Centre Observatory

by Alan Jones

For the past twenty years, our Vancouver centre has enjoyed an observatory built by member volunteers for the purpose of member amateur astronomy research projects. It is situated in the UBC research forest adjacent to the UBC liquid mirror telescope in rural transition dark skies at an elevation of 400 metres. It's less than an hour drive from Vancouver. We have a permanent pier, a fork-type EQ-mounted 16-inch Schmidt Cassegrain telescope, an SBIG camera, and a guide camera in a secure facility with heat and power.

Our observatory is a fantastic asset for our club. It represents an opportunity for interested

members to learn about astrophotography, astronomy research projects and running and operating a remote observatory. Council funds the operational cost annually and helps find funds for special projects. This year the observatory is due for extra special maintenance and we need interested members to help with the project.

I like to think of our observatory as our largest member loaner telescope, so large that you can't take it home. We are looking for enthusiasm, talent and time from members interested in getting the observatory into top shape again and using it for interesting astronomy projects. The recent

supernova in M82 was discovered by graduate students by accident while learning to operate an observatory. I was lucky enough to observe the event through our observatory telescope and it was quite an amazing site. When the facility is fully operational again we can easily record such an event.

Thank-you to all of you that have offered to help already. As the weather improves we'll be planning and tackling the work. If our amateur research observatory and the revitalization project appeals to you and you would like to be involved, please send me a email via: AOMO@RASC-Vancouver.com. Or introduce yourself at one of the member meetings. ✨



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