

NOVA

NEWSLETTER OF THE VANCOUVER CENTRE RASC
VOLUME 2019 ISSUE 2 MARCH/APRIL 2019



Serendipitous Eclipse

by J. Karl Miller

It happens very seldom that the weather gives us a break exactly when we astronomical observers want one. Usually it's the reverse: the weather is reasonable just before an interesting event. Then, just a few hours before event time, the weather clouds up, or rain starts, or snow, or any other condition which prevents us from observing is going to occur.

This time, we got a lucky break. The weather cleared up just a few hours before the recent total lunar

eclipse. Our granddaughters, who are also members of the RASC (as I am), took some



nice pictures of the eclipse (I set up a telescope on the rear porch at home and just observed by eye, binoculars, and the telescope). I downloaded only one image from

Slooh. com, the remotely-accessed organization.

Below is one of Marina's pictures.

On page 6 is my only image, taken with a remote-control telescope at slooh.com:

I'm always fascinated by the media's statements when they are hyping a completely normal astronomical event which

repeats itself often with descriptions like Blue Moon, Harvest Moon, Wolf Moon, Super Moon, and other mystical names.

continued on page 6

MARCH 14

SFU

Dr. JJ Kavelaars of NASA's New Horizons mission and the DAO in Victoria invites you to "Meet Ultima Thule!"
Room SWH10041

SFU

APRIL 11

SFU

Eric Lanoix, who has worked with the CSA and NASA contractors: Orbital Rendezvous and Capture.
Room SWH10041

SFU

MAY 9

SFU

Dr. Reka Winslow from the University of New Hampshire will speak about coronal mass ejections. See meetup for room details.

SFU

Members' Gallery



Lunar Eclipse by Hayley Miller

A shot of the January 20 lunar eclipse from outside the HR MacMillan Planetarium.

President's Message

I want to take this opportunity to thank our members who volunteer for council positions. Last Thursday, we held our usual council meeting in the Trottier Studio at Simon Fraser University, just like we do every month. Thanks to the weather, it was not a "usual" meeting.

All day long we watched the

weather predictions, trying to decide whether to change our plans or not. The prediction was for rain with a chance of snow amounting to less than a centimetre. Growing up on the west coast has instilled in me a "dark humour" about the weather that leads me to often joke about meteorologists' efforts to predict

by Leigh Cummings

the future. I have been known to call meteorologists "witch doctors who read tea leaves and other more gross things to come up with their predictions." I know that it is very unfair to make fun of a field of science as difficult to work in as predicting the weather. Even with all the mod-

continued on page 4

About RASC

The RASC Vancouver Centre meets at 7:30 PM on the second Thursday of every month at SFU's Burnaby campus (see map on page 4). Guests are always welcome. In addition, the Centre has an observing site where star parties are regularly scheduled.

Membership is currently \$81.00 per year (\$47.00 for persons under 21 years of age; family memberships also available) and can be obtained online, at a meeting, or by writing

to the Treasurer at the address below. 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 nec-

essarily 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 the Trottier Studio in the Chemistry wing of the Shrum Science Centre at SFU. Please contact a council member for directions.

2019 Vancouver Centre Officers

President	Leigh Cummings president@rasc-vancouver.com
Vice-President	Gordon Farrell vp@rasc-vancouver.com
Secretary	Olivier Eymere secretary@rasc-vancouver.com
Treasurer	Phil Lobo treasurer@rasc-vancouver.com
National Rep.	Kenneth Lui national@rasc-vancouver.com
Librarian	William Fearon library@rasc-vancouver.com
Public Relations	Scott McGillivray publicrelations@rasc-vancouver.com

LPA	Vacant lpa@rasc-vancouver.com
Dir. of Telescopes	Ken Arthurs telescopes@rasc-vancouver.com
Observing	Robert Conrad, Ken Arthurs observing@rasc-vancouver.com
Membership	Suzanna Nagy, Francesca Crema membership@rasc-vancouver.com
Events Coord.	Hayley Miller events@rasc-vancouver.com
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Merchandise	Kyle Dally merchandise@rasc-vancouver.com
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NOVA Editor	Gordon Farrell novaeditor@rasc-vancouver.com
Speakers	Scott McGillivray speakers@rasc-vancouver.com

Past President	Suzanna Nagy
At Large	Howard Trottier, Bill Burnyeat

Honourary President	J. Karl Miller
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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

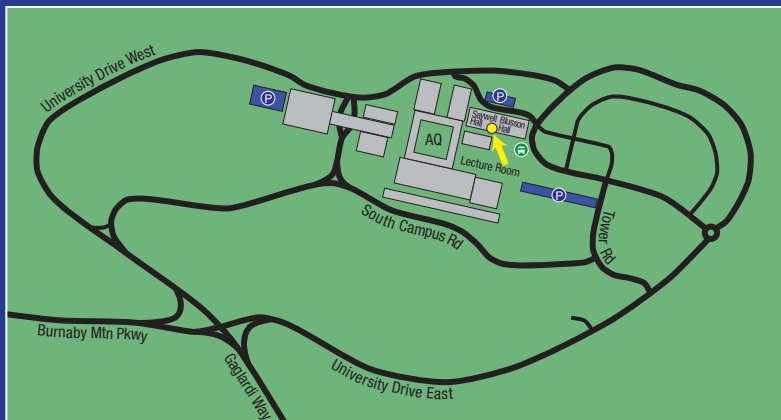
<http://rasc-vancouver.com> or
<http://www.rasc.ca/vancouver>
<http://astronomy.meetup.com/131/>
<http://www.facebook.com/RASC.Van>



Mailing Address

RASC Vancouver Centre
PO Box 89608
9000 University High Street
Burnaby, B.C.
V5A 4Y0

Map to Meeting Site



Our March and April meetings are in room SWH10041 of Saywell Hall, about halfway down the main corridor as indicated by the arrow on the map.

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

continued from page 3

ern tools at their disposal, there is still an uncertainty factor that must permeate their predictions. All fields of science experience this uncertainty to some degree or another, but there is not a field more in the public's face than the weather, nor a group of people more grumbled about than meteorologists.

The first clue they might not have gotten it quite right last Thursday was when I noticed an after-hours visit at our hummingbird feeder. Because hummingbirds depend on burning sugar all night long to keep warm, they are always the last birds to quit coming to our feeders in the evening. It's like that warm cup of tea or “other drink” that helps us sleep through the night. This late night visitor knew something I didn't.

When I parked my car in SFU's East Visitor's Parking lot, my car was bare, as was most of the parking lot. Just before our meeting

was to start, I got an email from Karl Miller telling me he decided not to come to the meeting (a very rare event in itself) because it was snowing heavily at his place in Burnaby. Not long after, as we were starting our meeting, Andrew Krysa let me know that the traffic cams at SFU were showing that it was snowing heavily at campus. Even though I hastened the pace of the meeting to the detriment of some of our chairs reports, it still took us an hour and a half to conduct our business. In that ninety minutes it had snowed 4 inches (10.16 cm) of heavy wet snow.

I know that the members and guests reading this article, who grew up almost anywhere else in the country, will be chuckling to themselves and thinking us wimps. Fair enough, considering we west coasters hold an annual flower count March 1st for the sole purpose of making our fellow country people envious of our short winter.

Thursday night's alteration from the norm also had some serious side effects. Some of our council members did not even have snow tires on their cars. This is not unusual by March in the lower mainland. I had contemplated removing my snow tires the weekend before but I was too lazy to take on the task. Several of our council had to abandon their cars in the parking lot, forcing them to retrieve their beloved coaches the next day at no small cost. Thus, my thank you to my fellow council members for braving the unpredictability of the science of meteorology. I also do not want to forget that we have lots of other volunteers in our club that often brave the elements to bring astronomy to the public of all ages. A big thank you to them as well. Our organization is run and powered by volunteers so I invite all our members to volunteer in any way that they feel comfortable doing. It is fun and very satisfying. *

Lunar Eclipse Event – Trottier Observatory, SFU

by Suzanna Nagy

On Sunday, January 20, 2019, the Moon, Earth, and Sun lined up to create a spectacular lunar eclipse. As per usual, the media hyped up the event as a Super Blood Wolf Moon. Super because the Moon was closest to the Earth, Blood for the reddish colour of the Moon during the eclipse, and Wolf for the month of January when wolves are particularly loud and vocal leading up the breeding season of February.

For the evening of the 20th, the weather gods heard our prayers as the cloudy/rainy January we had been experiencing suddenly cleared just for that Sunday. We were so very lucky!

SFU opened the Trottier Observatory for this special Sunday evening event and your RASC volunteers attended en masse to assist with our personal telescopes.

I arrived at 6:30 pm to set up

for the 7:00 pm start. The observatory was open and eclipse enthusiasts already gathering. I quickly set up my telescope (I had brought along my William Optics 80mm refractor) and once ready, a line of people formed up to have a look-see through my eyepiece.

I have to say that the energy and excitement of the crowd was infectious. Young, old, toddlers, adults, teenagers, and university students, were all mingling together, asking questions, taking photos, and enjoying the event.

It was a pleasure volunteering for this event. The crowd was estimated to be close to 1,000 and one could hardly move around the observatory plaza for the people; yet all were courteous and well-behaved. I received dozens and dozens of “thank you”s from those that took a look through my little WO 80mm as

well as many compliments on the optics of my telescope. Makes the money I spent on it definitely worth it.

A special shout out to Matthew Cimone of SFU for taking lead. Matthew walked up and down the lines answering questions and engaging the public. At one point, mid-way through the eclipse as the Moon slipped into the Earth’s shadow, Matthew shouted out to everyone to make note of the circular arc of the shadow—a humorous jab to all flat-earthers—and everyone shared a laugh together. At eclipse peak, the crowd cheered.

RASC Vancouver appreciates our ongoing relationship with SFU and the Trottier Observatory. You will find RASC Volunteers at all SFU Friday night Starry Night events. Here’s hoping for clear skies for all Fridays to come. ★

Membership has its Privileges!

Are you tired of looking at the same objects again and again (planets, moon, etc.)? Is your telescope collecting dust because it’s hard to locate deep sky objects? Would you like to bring your observing to a stellar level? Robert Conrad, our new observing director, revived the Vancouver RASC observing group and invites you to join by sending him an email at observing@rasc-vancouver.com. Some of the benefits of belonging to this group include:

- Hands on training on how to operate the SFU Trottier observatory
- Weekly observing sessions at the observatory or at dark sky locations
- One-on-one coaching on how to locate thousands of objects in the night sky
- Attend small interactive seminars delivered by Robert on a range of topics including failsafe star-hopping, charting challenging objects and understanding the motions of the cosmos
- Learn to make your telescope dance by locating objects such as asteroids, nova, and supernovae
- Spectroscopy and imaging training from Howard Trottier and an opportunity to collaborate on observatory research projects
- Updates on observable sky events happening during the week like asteroid/comet/deep sky conjunctions
- Access to observing guides and lists that Robert created that took hundreds of hours to create and will help with planning observing sessions
- Knowledge and expertise from other observing group members
- Learn how to quickly and efficiently find and star-hop to deep sky objects using a range of binoculars and telescopes

Upcoming Events

March

23 – Night Quest at Pacific Spirit Regional Park

May

11 – Astronomy Day at SFU

June

13 - 16 – RASC General Assembly in Toronto

July

27 - Aug. 4 – Mt. Kobau Star Party

August

24 - 31 – Merritt Star Quest

October

18 - 20, 25-27 – Manning Park Dark Sky Festival

December

12 – AGM

continued from page 1

We will have no more total lunar eclipses this year. A partial lunar eclipse this year will occur on July 16. The next total lunar eclipse will occur on May 26, 2021. On November 19, 2021 will be a partial lunar eclipse. Another total lunar eclipse occurs on May 16, 2022. In between occur several penumbral lunar eclipses, on Jan 10, 2020, June 05, 2020, July 05, 2020, Nov 30, 2020—all usually almost invisible, because the brightness of the full moon varies very little. Penumbral lunar eclipses are caused by the Moon just

missing the Earth's shadow.

The Moon's orbital plane differs from the Earth's orbital plane around the Sun by about 5 degrees. There are two crossover points, the ascending and descending nodes. Both solar and lunar eclipses (partial and total) can occur only when these

nodes are "in line" with the Sun, and the Moon is very near, or at, one of them. That also means the both types of eclipses occur at either "new moon" (solar) or "full moon" (lunar). These nodes slowly move around the plane of the Earth's orbit, giving rise to various series of "eclipse cycles" which repeat over hundreds of years.

You can let your imagination play by thinking about what these various types of eclipses would look like if you found yourself on the Moon...

The total lunar eclipse on January 20 was indeed serendipitous. ✨



Coming Together for the Love of Space

by Hayley Miller

The first few months of the year are typically a slower time for RASC events, however that has not been the case so far this year. 2019 has been off to a busy start and our volunteers participated at three events at the HR MacMillan Space Centre: The Lunar Eclipse, Cosmic Nights and Family Night.

When the doors open at the space centre (about an hour before the planetarium show) guests are invited to socialize in the Space Gallery. This is where our RASC table and vol-

unteers are set up.

RASC Volunteers hand out starfinders and chat with guests about astronomy and space.

Volunteers also talk about our Meetup lectures (which are the second Thursday of each month). These lectures are free and speakers range from astrophysicists to people that have worked on space missions. Stirring the passion and excitement in the kids about astronomy is rewarding for the volunteers too! We have a wonderful, diverse group of volunteers and

can't thank them enough for their time and dedication.

Lunar Eclipse

On Jan. 20, 2019, we participated in the Lunar Eclipse Event.

This was the first event of the year and it was better than we could have imagined! By late afternoon on that day, there was a buzz of excitement when it became evident that the skies would be clear and it would be perfect eclipse-watching weather.

continued on page 8



Crowds and activities at the lunar eclipse event at the HR MacMillan Space Centre

continued from page 7

er. We felt fortunate to be on the west coast and able to view the eclipse early in the evening and to have great weather. Approximately 1000 astronomy enthusiasts, and RASC members came to the HR MacMillan Space Center that night. The SFU Trottier Observatory also had approximately a thousand people. It has been said

that this was one of the largest turnouts for a celestial event in recent years. It's great to see all the enthusiasm out there!

Cosmic Nights

On March 1, 2019 we participated in Cosmic Nights: Ultima Thule.

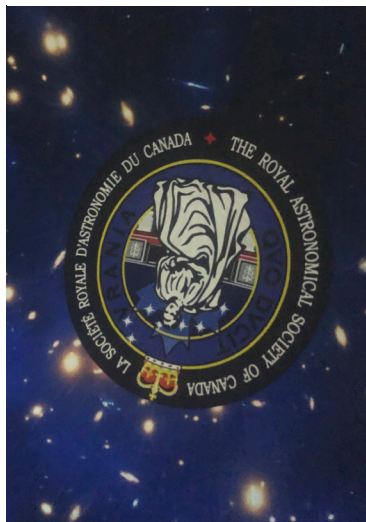
This event had two sold-out shows with approximately 200 guests for each show.

Dr. JJ Kavelaars spoke of his work on NASA's New Horizons mission which did a flyby of Ultima Thule this past New Year's Eve.

Dr. Kavaleers will be our next speaker March 14.

Extremophiles, Aliens and Exoplanets

March 1, 2019 brought Fam-
continued on page 10



Cosmic Nights: Ultima Thule at the HR MacMillan Space Centre, featuring a talk by JJ Kavelaars (upper left)

Youth Committee Summary

by Marina Miller

There is a new group representing RASC youth across Canada! The RASC National Youth Committee held its first meeting in December, 2018. Twelve members, from ages 9 to 21, volunteered to join and represent a total of six centres! Their goal is to develop and promote youth outreach initiatives in order to engage more youth and attract members. After one meeting, they concluded that the RASC currently succeeds in engaging youth across the country by letting them view the sky. However, there is room for improvement by creating youth-lead initiatives.

One important aspect of youth

engagement is social media, as it helps engage and retain younger audiences. Using it at more centres, on a consistent basis, and with a wide variety of content can greatly engage youth. The committee will be hosting an online seminar on using RASC Instagram accounts soon. Feel free to contact jenna.hinds@rasc.ca if you would like to participate!

Some other topics the new National Youth Committee has been working on include: improving general meetings, planning a Youth Astronomy Day, virtual and in-person youth events, and new merchandise. There is so much potential at all centres.

Youth membership benefits are currently identical to adult membership benefits. The committee is thinking about ways to possibly change this to attract and retain more youth members, taking into consideration that some benefits for adult members are not as desired by youth members. The committee is still in discussions about additional youth benefits, but is working on a STEAM design competition where someone could win a one-year youth membership. Stay tuned for more information on all of these initiatives.

Contact jenna.hinds@rasc.ca or your local youth committee members with any questions! ✨

RASC National Youth Committee Members

Centre	Member
Edmonton	Noshin Atiah
Hamilton	Benjamin Harris
Niagara	Jessica Vaughan
Ottawa	Danel Polyakov
Toronto	Matilda Curran
	Anna Kiseleva
	Arushi Nath
	Artash Nath
	Ivan Tockovski
Vancouver	Francesca Crema
	Marina Miller
	Meredith Miller

@rascvancouver on Instagram

You can follow us now on Instagram @rascvancouver

Instagram (along with Twitter, Facebook and Meetup) is a social media platform where we share photos and post info about upcoming events and as-

tronomy news. Winners of our first Instagram contest (at the beginning of March) received two free passes to see the documentary film, *Apollo 11*. RASC Instagram followers were asked to like, repost and tag a friend

by Hayley Miller

to qualify for 2 free tix to the newly released *Apollo 11*, now playing at the International Village and Langley theatres. Congrats to the winners! We hope to offer more contests in the near future. ✨

continued from page 8

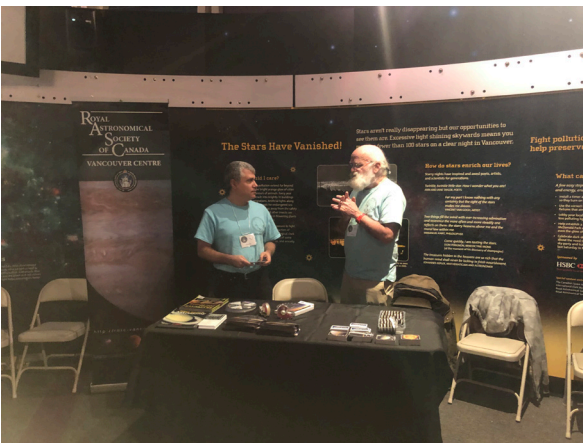
ily Night: Extremophiles, Aliens and Exoplanets.

This event had a lower attendance than the other two events

but our volunteers were there, eager and ready to put together starfinders and connect with the astronomy community.

We are excited to do more events with the Space Centre in the coming months. ✨

These events are often sold out so please check our posts on social media (Instagram, Twitter, Facebook and Meetup) and get your tickets early before they sell out. We are always looking for volunteers and love to see new and old faces coming together to enjoy the night sky! ✨



Extremophiles, Aliens and Exoplanets at the HR MacMillan Space Centre

Members' Gallery



Lunar Eclipse

by Andrew Krysa

A series of images of the January 20 lunar eclipse from Porteau Cove Provincial Park.





Lunar Eclipse

by Andrew Krysa

A shot of the January 20 lunar eclipse during totality from Porteau Cove Provincial Park.