



41 YEARS!
1981-2022

RASC
SUDBURY
CENTRE

Up Above, The Heavens Await



RASC SUDBURY CENTRE ASTRO-NORTH | Friday Dec 2nd, 2022

www.sudburyastronomyclub.com

Facebook: www.facebook.com/groups/RASCsudbury/



Meeting Agenda, 7:00PM

1. Sudbury RASC President Address – Alan Ward
2. Michael Wright - A Martian Odyssey
3. Show & Tell (10min) - Trevor Chandler
4. Break - (10min)
5. Astro Jeopardy
6. Mars Dec 7 occultation simulation via Digital Planetarium
5. Closing Comments/News/Open Forum/Starlight Lounge

**Hybrid Meeting!! . We hope that
you'll be able to join us in person
at the Science North Planetarium!**

Meeting Link: Please use this link if attending via Zoom. The link will be different every month!

<https://us02web.zoom.us/j/84881567546>

**Note about Parking at Science North if attending in person:
Stop at the booth, Press the Button, Take the Ticket. The gate lifts. Proceed,
and you will not be charged to get out. The ticket makes a handy bookmark!**

This Month's Presentation:

Michael Wright of Kitchener-Waterloo RASC



A Martian Odyssey

Michael will give us an amazing talk about Mars, full of highlights and facts that you've probably never heard of before. Let us

take this Odyssey with him.

- ==Join us!== -

Friday Dec 2nd @ 7PM

**A Hybrid Meeting on Zoom and at the Science
North Planetarium**

Next Month: To Be Announced

Editor's Voice

December already? Wow, where has the time gone? I want to wish everyone a Merry Christmas. If you have to travel, please do so safely. We want you all in one piece!

Please Note: Any submissions should be sent no later than two weeks before the meeting date.

- Patrick Dodson

Centre News

This Space reserved for news directly impacting the Sudbury Centre, whether it be membership renewal notices.

Big Announcement!

We have a very exciting announcement to make that we can't wait to share!. You'll find it below on its own page.

Great Meeting!

If you missed last month's meeting, you missed quite an active meeting with two historical telescope experts and lots of discussion and an update on the Banting Telescope as featured below. Subscribe to the mailing list, if you don't want to miss another meeting! You'll get the newsletters sent to you directly along with the meeting invitations. With our hybrid format, you can join our meetings whether you're local or not. Request via our Facebook Group or by emailing Alan Ward.



"Banting Telescope"
Photo courtesy of
KW-RASC and
Randall Rosenfeld
of the Dorner
Telescope Museum

A New Asteroid

Extra Extra, read all about it!! As mentioned, we have some very special news to announce. We have very special thanks to Peter Jedicke for making this happen. This just came in while the newsletter was being put together, and it deserves a page of its own!

Linda Pulliah now has an asteroid named after her!!

Details as follow:

(10493) Pulliah = 1986 QH2

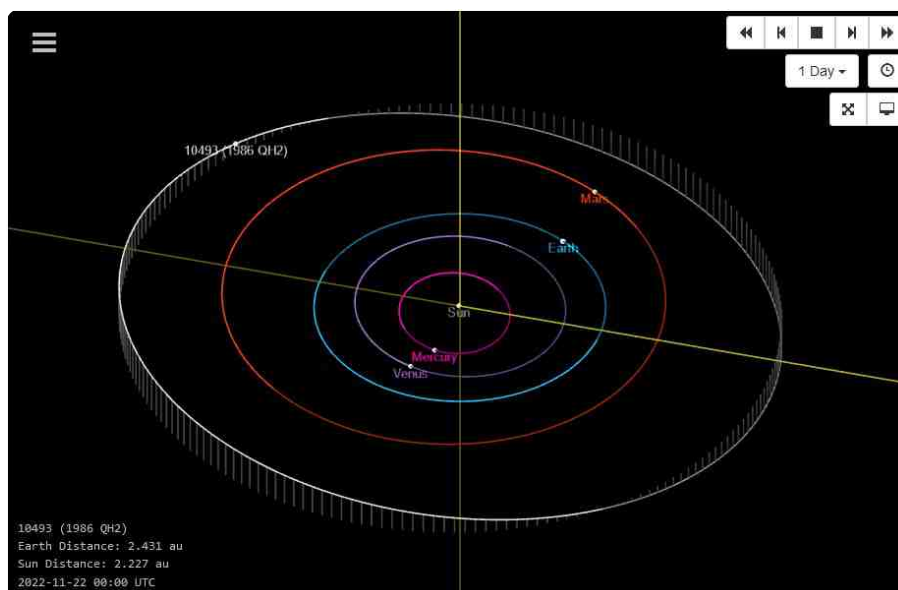
Discovery: 1986-08-28 / H. Debehogne / La Silla / 809

Linda (née Robins) Pulliah (1956–2022) worked as a nurse and was an outreach volunteer with the RASC Sudbury Centre. She created a sense of wonder under starry skies in Northern Ontario's parks for all ages and excelled in explaining complex science with analogies and engaging activities. She inspired colleagues locally and nationally to promote astronomy.

You can find this and others in November's International Astronomical Union's Bulletin below:
http://www.wgsbn-iau.org/files/Bulletins/V002/WGSBNBull_V002_015.pdf

This puts the count up to two from our closely knit group that have had asteroids named after them. In 2004, the IAU named an asteroid after longtime member, and current newsletter contributor, Steve Dodson. Asteroid 13822 Stevedodson is named after him.

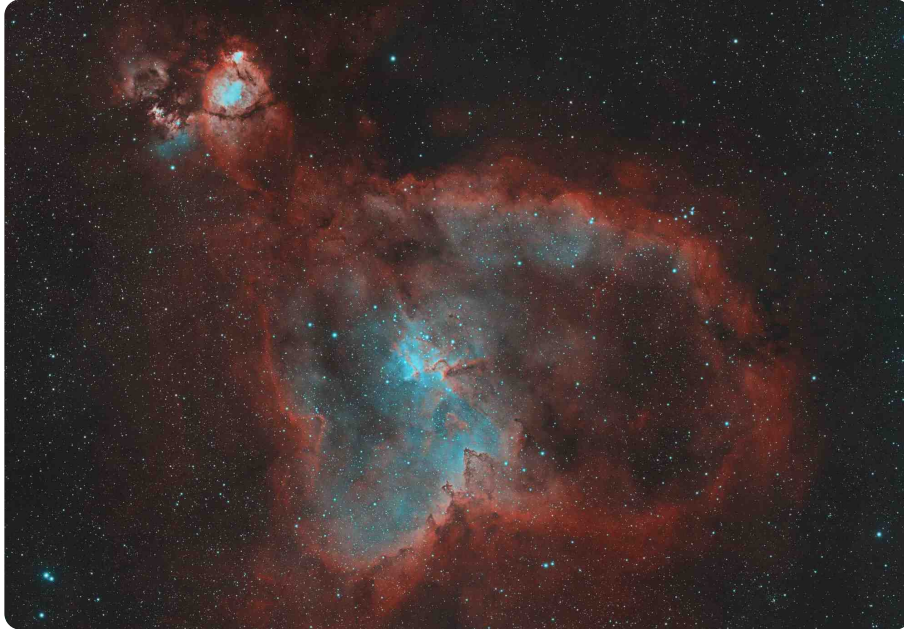
Thank you again to Peter Jedicke. Linda is truly among the stars now!



Community Contributions

The Heart Nebula

by Norm Hey



This is my latest creation—a four panel mosaic of an emission nebula commonly known as the Heart Nebula.

I shot this with my refractor telescope and a monochrome sensor camera with Hydrogen-alpha and Oxygen III filters. They pass only 656 nm or 500nm wavelength light plus or minus 3 nm, so pretty precise. Each panel of the dominant light, the Ha light, is about 70 minutes. The Oiii panels were each 100

minutes and the data was collected over separate nights. I processed each mosaic separately as monochrome or black and white, and by combining them, it gives a colour image as seen here. The red is hydrogen, the blue or teal areas are oxygen. The stars just look sort of whitish in this type of combination.

The Heart is in the constellation of Cassiopeia and the image you see is about five full moons wide, maybe six and three to four full moons high, so the Heart is a pretty big object. It is pretty close to us at 7500 light years distance. The blue hot supergiant stars in the middle are exciting the gases in this cloud to give off this radiation. The stars are roughly 1.5 million years old. The actual size of the Heart is about 200 light years in diameter.

I am working on adding a third wavelength of light to this image, this one from doubly ionized Sulphur, or Sii. Its wavelength is close to Ha, so both are in the red part of the visual spectrum. Through software manipulation, we can make Sii be the red part, Ha be the green and Oiii be the blue part of a "normal" image, known as RGB, for red-green-blue. This SHO version is commonly referred to as the Hubble palette, popularized by the SpaceTelescope Science Institute, the folks who run the Hubble Space Telescope and the new James Webb Space Telescope, among others. AS I have been writing this, my rig has finished taking an hour's worth of data for each of the four panels and I can get to work on it tomorrow. Right now it's off to bed. Hope everyone had fun on Hallowe'en!

Space News: The "First" White Dwarf

By Steve Dodson



You've heard that the Sun will shed its outer layers in 5 + Billion Years, lose about a third of its mass, and shrink radically to become a White Dwarf, about the size of Earth! You probably also know that Sirius B (AKA "The Pup") is the closest and brightest, white dwarf.

But these strange stars offer some surprises! It took astronomers decades to understand that it was their compact size that made them far fainter than ordinary white ("A-type") stars. The intense surface gravity caused by all that mass being packed into an earth-sized sphere has bizarre consequences! If I have a meal of several hamburgers and fries, I may have to

loosen my belt - but if a white dwarf snacks on the outer layers of a companion star, the white dwarf will shrink! The more mass the white dwarf has, the more gravity will "tighten the dwarf's belt"!

You might think that Sirius B, being the closest and brightest, would be the easiest to see - No! Nothing easy about Sirius B, because it likes to hide in the glare of its companion, the brightest star in the Sky (other than the Sun).

The easiest white dwarf for backyard Telescopes is 40 Eridani B, part of a three star system seen by William Herschel in 1783. The main star, 40 Eridani A, is a modestly-bright "orange dwarf", not close enough or bright enough to hide the white dwarf in it's glare.

40 Eridani B is the first white dwarf to have its true nature recognized, in 1910. "40 Eridani A" at magnitude 4.5, is an easily found naked-eye star, conveniently placed to the right (West) of Rigel. High power will show the nearby fainter pair of white dwarf "B" (mag. 9.7) + orange dwarf "C" (magnitude 9.8). B and C need high power to be separated, with an 8-inch Scope showing the contrasting white and red colours.

... More next month!

RASC Education, Public Outreach & Observing News

2022 Event Calendar

<u>STAR-PARTY</u>	<u>LOCATION</u>	<u>DATE</u>	<u>STATUS</u>
Frozen Banana	Mew Lake, Algonquin Park	May 5-8	
Thawed Banana	Chapman's Field, South River*	May 26-30	
New Moon in June	Chapman's Field, South River*	June 23-26	
Gateway to the Universe	Chapman's Field, South River	July 28-31	
August Star Party	Chapman's Field, South River*	Aug 25-28	
Half the Night	Halfway Lake P.P**	Aug 25-28	
Last Chance	Restoule P.P*	Sept 22-25	
Stars Over Killarney	Killarney P.P**	Sept 30-Oct 2	

*Contact Robert +Lil Chapman if wanting to attend bobandlil14@gmail.com

Contact Linda Pulliah if wanting to attend pulliah@fibreop.ca **705-671-8127

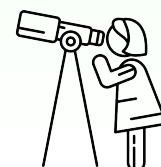
Updates

Currently the provincial parks are planning to provide public programs; we will be leading outreach events when in parks.

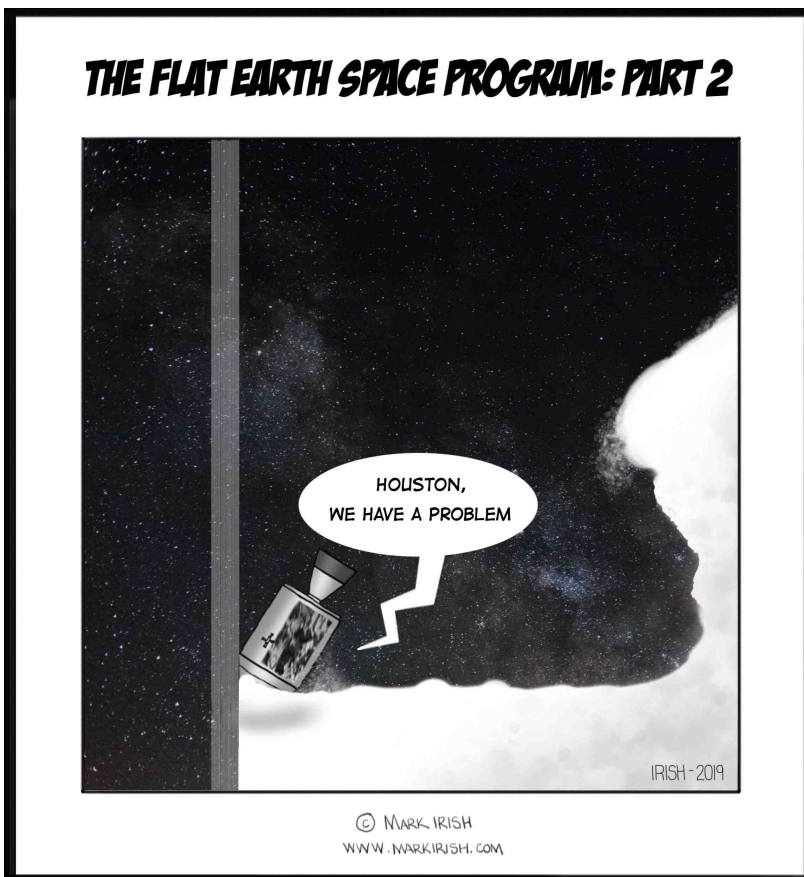
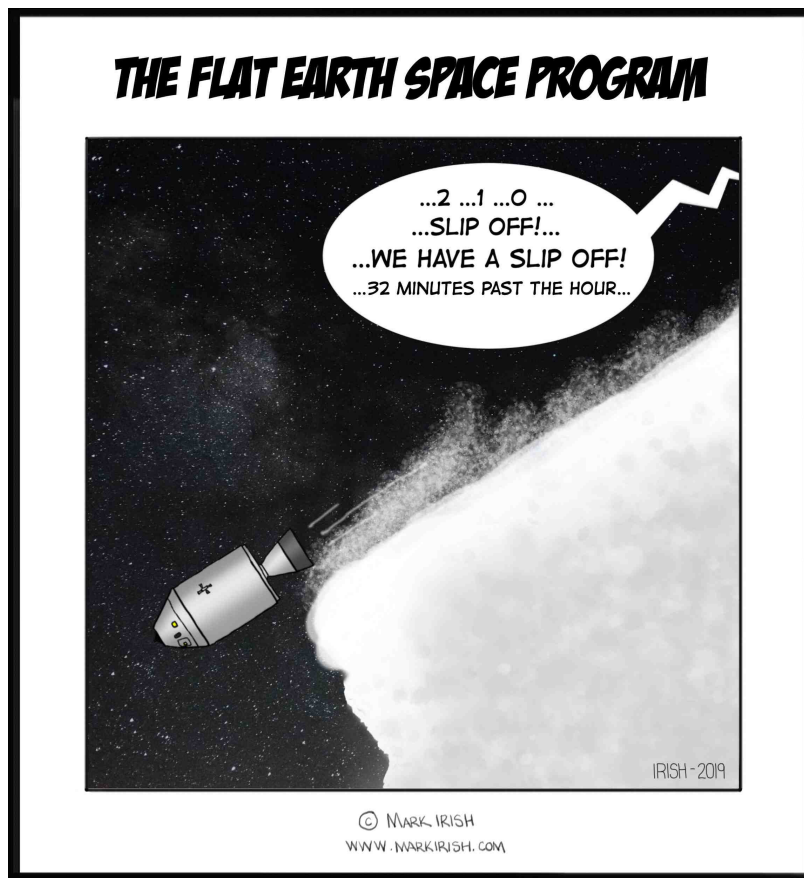
Due to restrictions in space, it is imperative folk contact the Chapman's or Linda Pulliah above as indicated for certain events.

We are being optimistic and excited to proceed with the 2022 star party season as listed, however, we will follow provincial guidelines if further restrictions are imposed. If uncertain, just contact those listed above.

Science North encourages RASC-Sudbury members to participate in their virtual and on-site in-person astronomy events. Visit sciencenorth.ca/planetarium#starpatries for info on date and times.



The Funny Page



Looking Up: December 2022

By Stargazer Steve/Steve Dodson

December Skies

Mars, the brilliant Star-like object lighting evening skies in the **East**, comes to "Opposition" on the night of **Wednesday December 7**. That means **Earth** is making a close approach to a line from the **Sun** to **Mars**, so that **Mars** stays opposite the **Sun**, rising at **Sunset**, and climbing highest by **Midnight**.

This year, as happens about every 65 years, the **Opposition of Mars** comes on the same night as a **Full Moon**! Since a **full Moon** also comes when **Earth** approaches a line from the **Sun** to the **Moon**, the result is the **Moon** will be very close above **Mars** when **Mars** rises on the **evening of December 7**. In fact the **Moon** will creep up on **Mars** and actually cover it - Occultation of Mars!

It will take a number of seconds for the **Moon** to cover up **Mars** starting at **11:24 PM**, so the light of **Mars** will dim slowly as the **Moon** covers its disk- **Mars** will not "wink out" suddenly.

In **evening twilight Monday Nov 28** the slim **Crescent Moon** sets a short distance below **Saturn**. Three days later on **Thursday Dec 1** the growing evening **Lunar Crescent** slides even closer beneath **Jupiter** (Very Picturesque!)

On Christmas Eve, **Venus** and **Mercury** return to the evening twilight Sky forming a tiny triangle with the **Crescent Moon**, and on the evening of December 28 the **Crescent Moon** returns to the vicinity of **Saturn** (5 degrees to the left of the Planet).

Geminid Meteors may put on a good show on both **Tuesday the 13th** and **Wednesday the 14th**, but go out early (right after supper) to catch some meteors before Moonrise!

For more details, and reminders in the hours before Sky Events, check postings on **www.sudburyastronomyclub.com**



To see more, visit the club website or follow Steve on Twitter at **@StargazerSteveD** for daily updates.

This Issue is dedicated to a great and dear friend to many of us. Linda Pulliah touched us in many ways. It was through her passion and excitement for all of the things that she did, including Astronomy. She loved educating the public about the wonders of the night sky, and she did it with such passion and awe. She was the organizer of our many starparties, and her presence will be dearly missed. Thank you Linda for giving us so many great memories. You will forever be in our hearts. Whenever we look at the night sky, you will be in our thoughts.



Linda Pulliah 1956-2022

A Video that encapsulated the feeling she believed in when teaching others about Astronomy.

<https://www.youtube.com/watch?v=XCkJ3NfIOpE>

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 Please visit our friends of the North Bay Astronomy Club at <http://www.gatewaytotheuniverse.org/>

