41 YEARS!
1981-2022

RASC SUDBURY CENTRE
Up Above, The Heavens Await

RASC SUDBURY CENTRE ASTRO-NORTH | Friday Apri 14th, 2023

www.sudburyastronomyclub.com
Facebook: www.facebook.com/groups/RASCSudbury/

Meeting Agenda, 7:00PM

1. Sudbury RASC President Address – Alan Ward

2. Astronomy Without Light:
   Revealing the Unseen Universe - Dr Stephen Sekula

3. Break - (15min)

4. What's Up, Doc? Planet Parade/Conjunctions/etc.

5. Astro-Jeopardy with Trevor Chandler

6. 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/87522368033

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. Your ticket will be exchanged for one that is validated.

This Month's Presentation:

Dr Stephen Sekula, SNOLAB

Astronomy Without Light: Revealing the Unseen Universe

As SNOLAB Research Group Manager and Professor of Physics at Queen's University, Stephen Sekula is concerned with the nature of the universe. But those lights in the night sky may be a distraction. The things we cannot see might matter more. In fact, it may be that all the dark places in between the stars are more important than those beautiful islands of light. Let's sample together the unseen universe, learning how to see without light and revealing the deeper structure of the cosmos.

Biography follows below

-==Join us!==-

Friday April 14th @ 7PM

A Hybrid Meeting on Zoom and at the Science North Planetarium

Next Month: Patrick Dodson:
A Century of Reflection - How a small Vermont Club created an enduring Legacy

Speaker Bio: Stephen Sekula

Stephen Sekula joined SNOLAB and Queen's University in 2022 as Professor of Physics seconded to SNOLAB to serve as the laboratory's Research Group Manager. He was previously a Professor of Experimental Particle Physics at Southern Methodist University in Dallas, Texas, where he served as Physics Department Head and earned the University's highest teaching award. He worked on subatomic particle collider experiments for 24 years, beginning as an undergraduate at Yale University and then as a Ph.D. student at the University of Wisconsin-Madison. He contributed to the study of fundamental mathematical symmetry in nature, rare states of matter, and the first measurements of the newly discovered Higgs particle.

He has supervised five PhDs., mentored a range of university and secondary school students and continues to mentor future generations of scientists. He now focuses on the study of the unseen universe, especially the nature of dark matter and early alerting for galactic supernova detonations. He is a published author, including "Reality in the Shadows (or) What the Heck's the Higgs" (2017) and "The Friendly Physics Guide to Nuclear and Particle Physics in Medicine" (2022), both published by YBK Publishers in New York.

Editor's Voice

Happy Easter, everyone! Spring is here even if the snowbanks and snowstorms don't make it feel like it, but we can only hope for clear weather!

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.

Important Meeting Day News

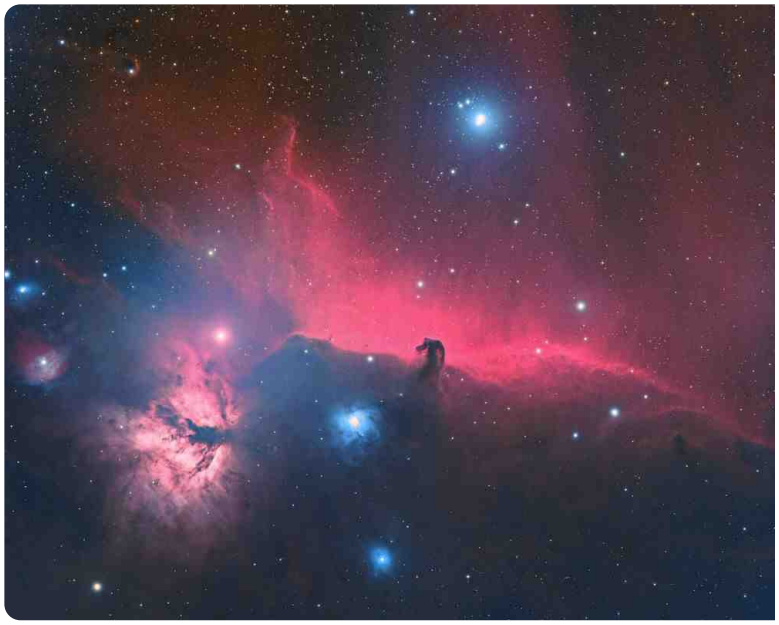
Important! After some consideration, starting in May, our meeting days will be changing to the second Tuesday of the month, rather than Fridays. Our hope is to better accomodate everybody and leave the Fridays free.

They will still be taking place at the Science North Planetarium, however we also have access to the Doran Planetarium, and we will hold meetings there when the purpose and situation demands it.

Community Contributions

The Flame and the Horsehead

by Norm Hey



The bit of Orion around the eastern end of his belt abounds in photographic treasures. A dark lane of dust cuts across the Flame Nebula at the lower left, and the dark silhouette of the Horsehead Nebula cuts into the reddish glow of the elongated nebula called IC 434 which stretches across the middle of the image. The orange star between the Flame and the elongated nebula is the eastern "belt" star Alnitak. The bright blueish star at the top of the image is Sigma Orionis.

Sigma emits abundant ultraviolet light that excites the hydrogen in the elongated nebula IC 434 to glow with red Hydrogen-Alpha light. A dense, oddly-shaped cloud of dust sits in front of IC 434, blocking some of the light to create the Horsehead shape.

Sigma Orionis is a triple star system of massive young stars, estimated to be between 10 and 20 solar masses each. Scattered through this red veil (IC 434) are another 30 or so members of the cluster of stars emerging from this huge gas and dust cloud.

The dust on "our" side of this cloud is obscuring light from these stars and the glowing gases. The dark silhouette has been known for years by its now common name of the Horsehead Nebula, which it indeed resembles.

The image has added details provided by recording the very specific wavelength of hydrogen alpha light, with a special filter that transmits only the precise frequency in the deep red part of the Spectrum that is emitted by the excited hydrogen atoms in the nebula. Adding this data tends to give everything a bit more of a pinkish tint; the Flame is more of a creamy colour in just "ordinary" light.

The area of the image is about the width of 3 full Moons.

Space News:
Three Clues: The Answer is...?

1) Last month we were lead on a fascinating and insightful exploration of asteroid impact processes and the history of the Sudbury Basin Structure by Scientist Tabetha Sheppard. CLUE: This Person helped Tabetha gain her impressive knowledge of these events and her ability to clearly describe them ...

2) Last Autumn Patrick and I, along with 40 attendees of the "Stars Over Killarney" Star Party saw the Geological History of major areas of Ontario recorded in the Rocks, as they were pointed out and explained on a scenic hike. CLUE: This person could make a morning hike in Killarney park reveal two billion years of Earth's history ...

3) Recently NASA and the Canadian Space Agency announced a Canadian Scientific Lunar Rover Project to be landed on the Moon during an Artemis Mission around the middle of this decade. CLUE: This person will guide the development of the Artemis Lunar Rover and assure the scientific value of its mission...

RESPONSE (to ALL THREE CLUES): Who is Dr. Gordon Osinsky?

Dr. Oz, as he is also known, is a Planetary Geologist at the University of Western Ontario, with deep knowledge of Craters and Impact Structures. Our speaker, Tabetha Sheppard studied Planetary Geology with him. Dr. Osinski has recently been named the "Principal Investigator" of the Canadian Rover Mission, and will involve students in the Rover design phase. The Rover will travel to permanently shadowed areas near the Lunar South Pole onboard the Artemis 3 mission, and will search for signs or Water Ice.

(By the Way: After her time at Western U, Tabetha Sheppard studied Science Communication with Dr. Hoi Cheu at Laurention University.)

Linda Pulliah Star-Party and Outreach Corner

2023 Event Calendar

STAR-PARTY	LOCATION	DATE	ORGANIZER
Frozen Banana	Mew Lake, Algonquin Park	May 18-22	North Bay Astronomy Club
New Moon In June	Chapman's Field, South River*	June 15-18	North Bay Astronomy Club
Gateway to the Universe	Michelle and Dan's, Corbeil	July 13-16	North Bay Astronomy Club
New Galactic Gathering	To Be Announced	Aug 11-22	Jeffery Deans
August Star Party	Chapman's Field, South River	Aug 17-20	North Bay Astronomy Club
Half the Night	Halfway Lake P.P	Aug 24-27	RASC Sudbury
Last Chance	Restoule P.P	Sept 14-17	North Bay Astronomy Club
Stars Over Killarney	Killarney P.P	To Be Announced	RASC Sudbury / Ontario Parks

Contact Robert +Lil Chapman if wanting to attend NBAC events **bobandlil14@gmail.com**
Contact Colin Durocher if wanting to attend Sudbury RASC events **debcol2007@gmail.com**

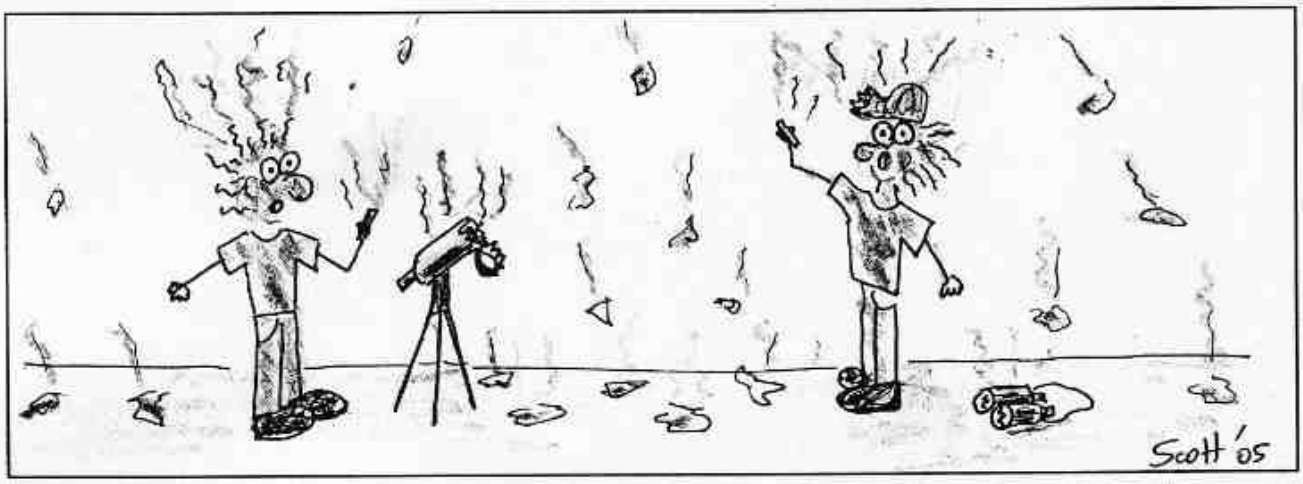
Updates

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 Colin Durocher above as indicated for certain events.

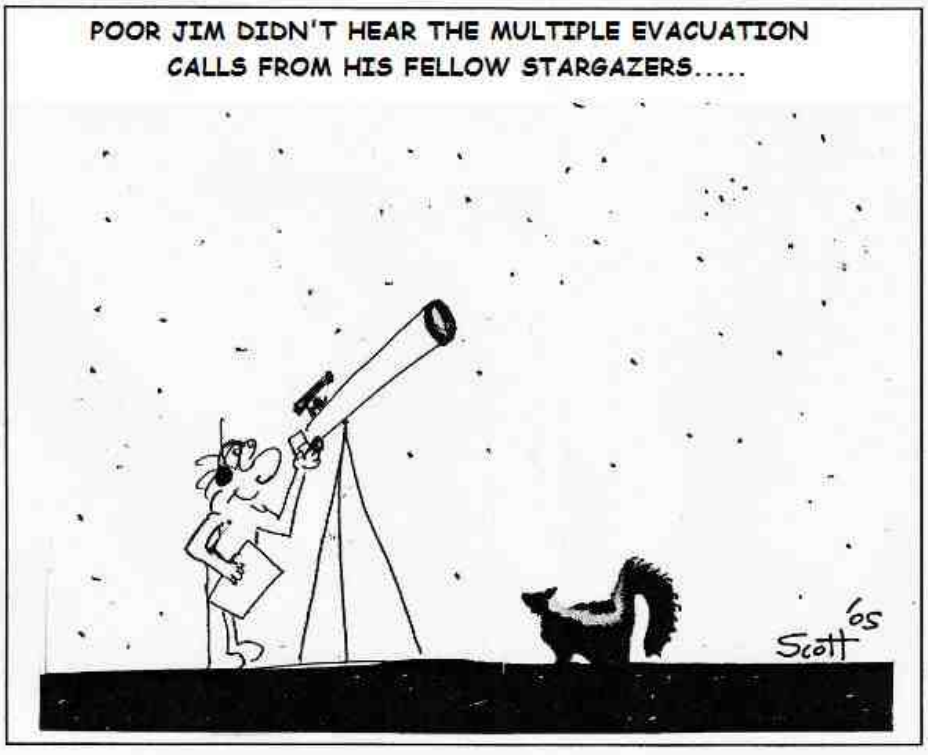
Science North encourages RASC-Sudbury members to participate in their virtual and on-site in-person astronomy events. Visit sciencenorth.ca/planetarium#starparties for info on date and times.

The Funny Page



NEVER, EVER, CROSS TWO GREEN LASER POINTER BEAMS !

Credit: Scottinash@CloudyNights



Credit: Scottinash@CloudyNights

Did you know?

Earth is 18 galactic years old. One galactic year is the amount of time it takes for the Milky Way to rotate around the black hole at its center - which is equivalent to about 230 million earth-years.

Looking Up!

By Stargazer Steve/Steve Dodson

April Skies

April Evenings find **the Big Dippe**r "standing on it's handle" high in the **Northeast**! Time to "follow the arc" of the handle to **Arcturus**, the bright orange Star rising in the **East**.

For a "preview" of a summer star, stay up until moonrise around midnight on Sunday April 9, and see the red giant **Antares** just to the right of the **Moon**, which is 4 days past full. The next night in the western Sky, **Venus** sits just 2 ½ degrees to the left of **the Pleiades Cluster (Seven Sisters)**, creating a photogenic scene!

Completing a consecutive trio of eye-catching evenings on April 11, **Mercury** makes its best springtime appearance low in the **West**, far below **Venus**. Look about 45 minutes after Sunset (Approx. 8:50 PM).

Two months after **Saturn** passed "behind" the **Sun**, the **Moon** helps us find it in morning twilight. Look for **Saturn** 45 minutes before Sunrise on the morning of April 16 (approx.5:50 AM) low in the **East** just above the **Crescent Moon**.

On April 22 the **Crescent Moon** and **Venus** both visit **Taurus**. Moving your gaze in a straight line from **Venus** past the **Moon** takes you to the **Pleiades**! Binoculars will pull the star cluster out of the twilight glow. On April 25 the **Moon** joins **Mars** between the two Gemini Twins! The **Red Planet** will appear only 3 degrees to the left of the **Moon**.

On April 27 the **Moon** sits above the **"Beehive" Cluster (M44)**. Only 4 degrees will separate the **Moon** from the big cluster. Check out the view in binoculars. On a good dark night **M44** is visible to the unaided eye!

For more details, and reminders in the hours before Sky Events, check postings on **www.sudburyastronomyclub.com** Scroll down to see the tweets!

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=XCrJ3NflOpE

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!!

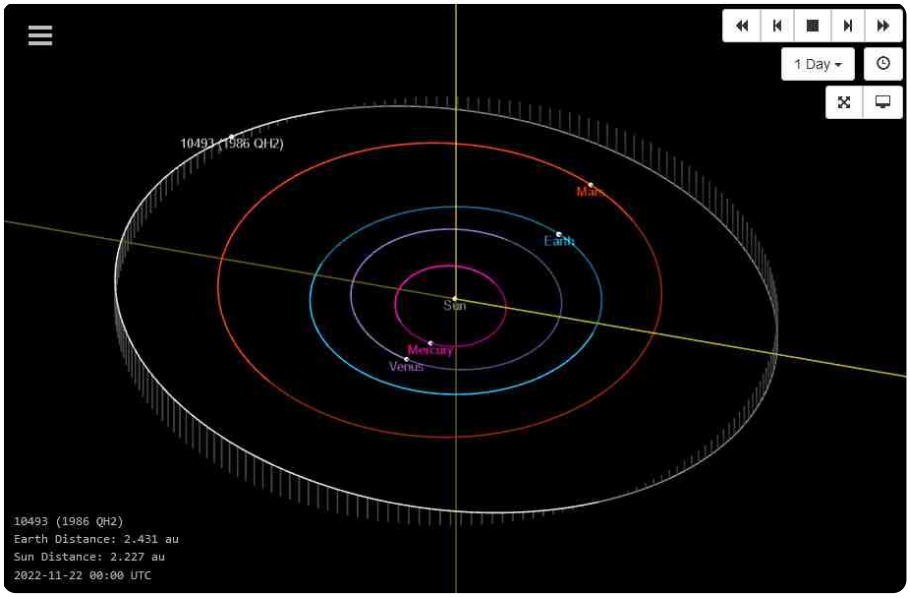
Details as follow:

(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'sparks for all ages and excelled in explaining complex science with analogies and engagingactivities. 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!



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Norm Hey
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Observatory Coordinator

Patrick Dodson
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Sponsors

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