



41 YEARS!
1981-2022

RASC
SUDBURY
CENTRE

Up Above, The Heavens Await



RASC SUDBURY CENTRE NEWSLETTER | Friday March 4th, 2022

www.sudburyastronomyclub.com

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



Meeting Agenda, 7:00PM

1. Sudbury RASC President Address – Alan Ward
2. What Telescope should I get? – Trevor Chandler (30min)
3. Show & Tell (10 min)
4. Astro Jeopardy – Trevor Chandler (30min)
5. Break - (10min)
6. AstoCalc – Alan Ward (30min) -
Alan will review some useful calculating tools for your telescope
7. Closing Comments/News/Open Forum/Starlight Lounge

This Evening's Presentation: Trevor Chandler (KW-RASC)

What Telescope Should I get?



Most of us have been asked this question. The answer is not as straightforward as it might seem. Beginners, and even advanced amateurs in our hobby, are faced with a wonderful but sometimes dizzying array of telescopes from

which to choose. In this presentation, we'll attempt to separate the wheat from the chaff and understand better the choices that are available to us. And we'll look at some of the other gear that, alongside a great telescope, can enrich our enjoyment of getting to know the night sky.

-==Join us!==-

Friday March 4th @ 7PM

Editor's Voice

Happy New Year to everyone! We hope you all have a safe and Covid-Free holiday! There is no member profile this month, but it will return in February.

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.

Solar System Walk Update by Norm Hey

Things are progressing with the Solar System Walk. Science North has installed a prototype along the Ramsey Lake Skating Path. The signs feature a QR code leading to a survey. If your family is out there, please take a moment to send some feedback!



The Club's EQ8 by Luc Comtois, Observatory Coordinator

The club's EQ8 will be removed from the observatory for retro fitting. All the screws nuts and bolts that are rusting will all be replaced with stainless steel hardware and will remain in storage at my place for the winter. The executive is aware of this and all in favour.

Note: You must be on the mailing list to receive the Zoom meeting invitation. The meeting links will not be posted in the newsletter. This is for security purposes. To request being on the mailing list, please contact us via our website via the Contact form on the Contact Us page. Note that replying as a comment on the website will not get that request seen through the proper channel.

Community Contributions

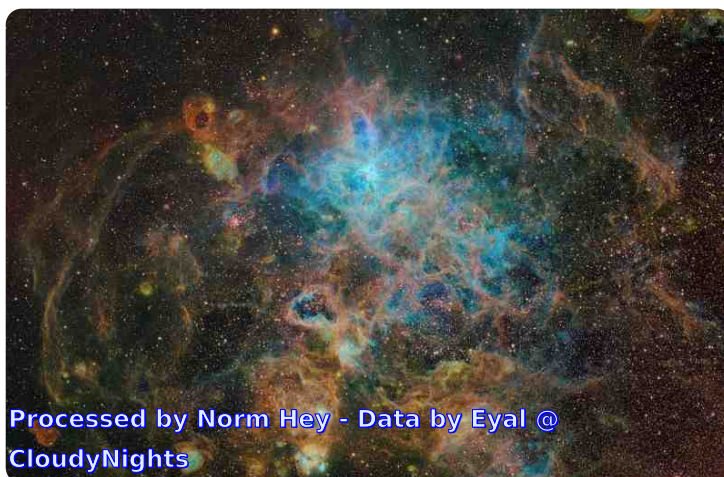
Tarantula Nebula by Norm Hey

Most of us are familiar with this magnificent object now prominent in our winter skies, the Great Nebula in Orion. Easily visible even with the naked eye in a dark sky, this huge stellar nursery is one of the biggest and brightest in our sky and at only 1400 lightyears distance, one of the closest. This two-panel mosaic, my first attempt at imaging this amazing region was created last year. Weather and circumstances have conspired to stop any further data collection on this and other magnificent targets in our winter skies so far.



Now imagine you are somewhere in Central or South America, or anywhere in Earth's southern hemisphere, on a beautiful starry night. Skimming the southern horizon at worst, becoming circumpolar like the Big Dipper if you are far enough south, say, in southern Chile or Argentina, or even southern Australia or New Zealand or South Africa, two of the gems of the southern sky become visible: our brightest near-neighbor galaxies, the Magellanic Clouds.

The larger of the two contains a region that is the most active star-forming region in our Local Group of galaxies. This area stands out in the LMC as a brilliant but diffuse cloud known as the Tarantula Nebula. The Tarantula Nebula has an apparent magnitude of 8. Considering its distance of about 49 kpc (160,000 light-years), this is an extremely luminous non-stellar object. Its luminosity is so great that if it were as close to Earth as the Orion Nebula, the Tarantula Nebula would span about 30 degrees (about 60 full moons) and cast visible shadows! The Tarantula is also home of Supernova 1987A, the most recent supernova to be seen in our skies, even if it is 160,000 light years away!



This image of the Tarantula is about 3 moons wide and 2 moons high. Data is courtesy of a member of the CloudyNights forum who resides in Dunedin, New Zealand. For comparison, the Orion image is about 4 moons by 3 moons, so really pretty similar in visual extent. But one is one hundred times further away!

Space News: The Sudbury-Apollo Connection: 50 Years!

By Steve Dodson

As many Sudburians know, the low-lying area that we call "The Valley", is actually the distorted remnant of an ancient impact structure, similar to one of the mid-sized craters our Telescopes show on the Moon! It has been eroded and reshaped by both our atmosphere and the drifting of continental plates.

But not everyone can visualize what happened Two Billion Years ago when a kilometre-class asteroid or comet slammed into the Canadian Shield! The energy of a multi-megaton atomic blast was released in the blink of an eye (if there had been any eyes to see!), with several results:

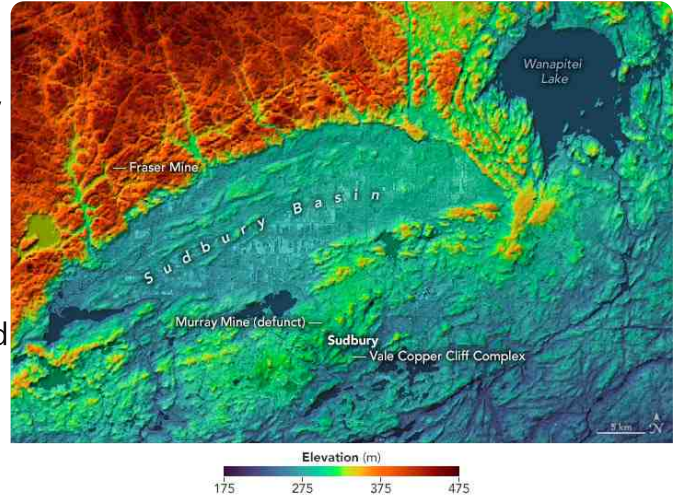
First, Shock waves spread out, changing the structure of rocks over many square kilometres. Second many cubic kilometres of rock were broken into fragments and launched on ballistic paths even arcing into space. Some of these rock fragments were found as far away as Wisconsin! Third, rock under the middle of the impact was flash-melted into a pool of Magma like we can see in volcanic calderas.

Some of the flying rock fragments came back down and fell into the magma. Eventually the magma cooled off, trapping the rock fragments in a fine-grained matrix of re-frozen rock. The resulting rock containing sharp - edged fragments of the earlier shield rock is very distinctive, and is called Sudbury Formation Fallback Breccia, breccia being Italian for "Broken".

Highway 144 has rock cuts that have exposed the Fallback Breccia near Windy Lake. A walk through the woods in that area can reveal more of the Sudbury Formation. Chris Gainor, writing in the current Sky News reminds us that 50 years ago Apollo Astronauts did come to Sudbury precisely for that walk in the woods!

Apollo 16 and Apollo 17 Astronauts came to Sudbury in July 1971 to study our rocks, so they could recognize whether rocks they found on the Moon came from Impacts or from Volcanism (which was the competing theory). A few Months later Apollo 16 Astronaut Charles Duke was walking on the Moon and picked up a rock that he called "absolutely Beautiful". He then said " It looks like a Sudbury Breccia, and that's the truth. I can't believe it."

Later in 1972 Apollo 17 Astronaut Harrison Schmitt found more Sudbury-like Breccias at a very different landing site. Since then it has been clear that impacts have been the leading shaper of the lunar surface.



RASC Education, Public Outreach & Observing News

2022 Event Calendar

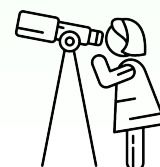
<u>STAR-PARTY</u>	<u>LOCATION</u>	<u>DATE</u>	<u>STATUS</u>
Frozen Banana	Mew Lake, Algonquin Park	May 5-8	TBA
Thawed Banana	Bobland	May 26-30	TBA
New Moon in June	Bobland	June 23-26	TBA
Gateway to the Universe	TBA	July 21-24	TBA
August Star Party	Bobland	Aug 25-28	TBA
Half the Night	Halfway Lake P.P	Aug 25-28	TBA
Last Chance	Restoule P.P	Sept 22-25	TBA
Stars Over Killarney	Killarney P.P	Sept 30-Oct 2	TBA

Updates

Regrettably, all star-parties are cancelled up til August due to COVID regulations, with a tentative Halfway Lake Starparty to happen, if the Provincial Parks are open by then. We ask you to Save the Date for New Moon in June, in the event that a small gathering happens at Burwash. Anyone wishing to participate in the Events at Chapman's Field **must** contact Bob & Lil Chapman ahead of time to insure that officially allowed numbers are not exceeded: **bobandlil14@gmail.com** or **705-386-7087**

In other Star Party News, Science North would like to announce a series of Virtual Star-Parties. These Starparties will be held virtually on Facebook and Youtube, and will be held every Saturday until it is safe to meet in person. These are open to all members of the public.

Visit <https://www.sciencenorth.ca/planetarium#starparties> for more information.



Outreach Update

by Linda Pulliah, Outreach Coordinator

Outreach Report for 2021

In the early months of 2021, we witnessed Saturn moving westward away from Jupiter following the close conjunction in late December. Time was spent with members of Trinity United Church in Lively, explaining the terms alignment, conjunction, and how they relate to the concept of the Christmas Star.

RASC-Sudbury provided a very well attended on-line presentation for the OALT conference. Thanks to Pauline Gordon for recommending us as a presenter, and her assistance with computer challenges.

Prompted by the North Bay Astronomy Club, we connected with Graham Jones from timeanddate.com to prepare for live streaming of the annual eclipse June 10th. The choice location was Dynamic Earth, below the Big Nickel, alongside the projection box. The technical team included Olathe McIntyre, Norm Hey, Luc Boulard and Colin Desrochiers. Also present from the club were Alan Ward, Vic Laimatainen, and Linda Pulliah. RASC solar viewers were given to the public, very few of whom were aware of the dangers of viewing the sun without filtering. The public were invited to walk about the telescopes and share views of the partially eclipsed sun. The event had been promoted by CTV Northern Ontario, and afterwards covered by multiple news medias, ie Reuters, New York Times. The live stream was viewed by millions of viewers, both through NASA and timeanddate.com.

The pandemic health practices meant star parties could not be held as usual in the provincial parks. However, in June, once outdoor camping was allowed, the first gathering of astronomers occurred in South River at what is now affectionately known as 'Bobland'. Gatherings were larger in July and August, each time there were novice astronomers who enjoyed the opportunity to learn how to use their telescopes and soak in the shared knowledge those with skill. A reduced version of Half the Night meant no official public programs, but a few campers took advantage of the opportunities to share the night sky with us. Last Chance Star Party @ Restoule P.P. became primarily for astronomers, again, no public programs. But what a great opportunity to learn from others in the hobby! Back at Halfway Lake P.P. in mid-September I gave an impromptu laser tour to a group of campers and provided limited views with a small refractor. In total, the core group from RASC Sudbury attended five star parties, all done according to restrictive health guidelines.

Early in August Linda provided an on-line presentation for the Greater Sudbury Public Library. A similar virtual presentation was done in January 2022. It is hoped this is the beginning of a partnership with RASC and the local library with events a few times per year.

Late in October Alan, Colin and Linda lead a rather large gathering from Scouts Canada, in the parking lot @ Fielding Park. For safety reasons, telescope viewing was disallowed, but the Scouts were kept busy with basic introductory activities and being shown three types of telescopes.

On November 10th, the team of Colin, Norm, Linda, Olathe and Paul met @ Dynamic Earth again to provide live stream video for timeanddate.com. Despite severe wind, cold, and intermittent clouds, coverage was provided from approx. 0100hr to 0500hr. The sky cleared for us to witness the 90% eclipsed moon and submit some fine photography.

Looking Up: March 2022

By Stargazer Steve/Steve Dodson

The First Star of Spring: Regulus, the "Royal Star"

With the bright stars of winter now relegated to the western half of the Sky, **Regulus** is well up in the **eastern sky** on **March Evenings**, and a more reliable sign of **Spring** than the earthbound groundhogs! Although **Regulus** is barely bright enough to qualify as a first magnitude star, it stands alone in a large region of the **eastern sky**. If you follow the **Dipper's Pointer Stars** backwards (**away from Polaris**) your line of site will pass near **Regulus**.

The modest appearance of **Regulus** is deceptive, since it makes **140 times as much light as the Sun!** It spins so fast that a point on its equator whizzes by at over **a million kilometres per hour**, so that it is **4 times as wide as the Sun at the equator**, but only **3 times as big in the direction of its poles!** If it somehow sped up only **14% faster**, **Regulus** would fly apart!

On the evening of **March 15**, **Regulus** will appear close to the **Moon (4 degrees to the Moon's lower right)**.

The "**Dance of the Planets**", so dazzling on **November/December early evenings**, has moved to **pre-dawn skies!** **Jupiter** is hidden behind the **Sun**, being in conjunction behind the **Sun** on **March 5**. Stunning Solar System close groupings bookend March.

A **half-hour before Sunrise** on **Wednesday March 2**, **Venus and Mars** punctuate the twilight low in the **Southeast**. Scraping the horizon to the lower left of **Venus** are **Mercury** and **Saturn!** ([Use Binoculars](#)).

Three quarters of an hour before **Sunrise** on **Sunday March 27** to **Tuesday March 29** the **Crescent Moon** joins a tight **triangle of Mars, Venus, and Saturn!**

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.

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

