Winnicentrics

The Newsletter of the Winnipeg Centre of the Royal Astronomical Society of Canada

Upcoming Events

Next meetings
March 8, 2019
April 12, 2019

Members' Observing Night
March 9
April 13
Weather Permitting

March 3
Mercury easy in western sunset sky

March 6 New Moon

March 10 Daylight saving time begins

March 22 Best view of evening Zodiacal Light

March 27
Moon passes Jupiter in the morning sky

April 5 New Moon

April 22 Lyrid meteor shower

Regular meetings of the Winnipeg Centre are held in the Robert B. Schultz lecture theatre in St. John's College at the University of Manitoba. The theatre is on the lower (basement) floor of the College. Meetings are usually held on the second Friday of each month from 7 p.m. to 10 p.m. After the meetings, members who wish to do so usually retire for pizza and more conversation about astronomical subjects. The June meeting is not held at St. John's College but is instead a barbeque at either a member's house or at Glenlea.

Meeting dates and meeting places may be adjusted during exam times and during Bomber home games or stadium events.

In this issue:

Meeting Agenda
Spruce Woods Star Party
The SkyThis Spring
Members' Image Gallery
Science News

Congratulations to Silvia Graca

This month's RASC Bulletin informs us that Silvia has won the Special Award for Sketching for her image "In the Neighbourhood."

Spruce Woods Star Party

SWSP will take place over the September long weekend this year, from Friday August 30 to September 2. This is an especially pleasant time to have our fall star-party, as temperatures are pleasant, the weather tends to be decent, nights are long, and mosquitos are largely absent. Keep and eye on the Winnipeg Centre website for details.

New YouTube Channel

RASC Winnipeg meetings have been broadcast online through one of our member's personal site, but are now being switched to a YouTube account. If enough viewers subscribe to the channel, a more appropriate address using the RASC name can be obtained. The new address is:

https://www.youtube.com/channel/UCI-5qhaejiUZHBnQdrbYDAA

Meetings back to last January are on the site.

WHO, WHERE, WHEN?

Executive Council

Winnipeg Centre Officers & Volunteers

President: Bryan Stach

Vice-President: Dennis Lyons

Secretary: Cliff Levi

Treasurer: Abdul al-Manni

Past President: Brenden Petracek

Councillors:
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Ed Wright
Darren Hennig
Bill Krosney
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SWSP Organizer: Silvia Graca

Webmaster: Kevin McGregor

Winnicentrics Editor: Available

Observatory Director: Bryan Stach

Winnicentrics is published 6 times or more each year by the Winnipeg Centre, RASC. Winnicentrics is produced by and for the members of the Winnipeg Centre. Any opinions expressed are those of the author. If you have comments, questions, or concerns about Winnicentrics, you can contact any of the councillors above.

Editor Wanted

We are looking for an editor for *Winnicentrics*. If you are interested, please let President Bryan Stach know. *Winni* is produced using Microsoft Publisher or its open-source equivalent. Confirmation of an appointment must be made by Council.

The Editor is responsible for the production of a 4- to 12-page issue at least every two months. This will involve collecting material for the issue, composing, and distribution to RASC members in the Winnipeg Centre. Estimated time per issue: 4-6 hours.

March Meeting Schedule

7:00 pm	Beginner's Session - Brief Historical Review of Stellar Investigations
7:30 pm	Announcements What's Up? Upcoming events in the sky What's New? Updates on Ultima Thule
8:30 pm	Break for Coffee and Refreshments
9:00 pm	Invited Presentation - *Image Processing with StarTools* by Richard Konrad

April Meeting Schedule

7:00 pm	Beginner's Session
7:30 pm	Announcements What's Up? Upcoming events in the sky What's New? New discoveries in astronomy
8:30 pm	Break for Coffee and Refreshments
9:00 pm	Featured Presentation: *Extragalactic Astronomy in a Nutshell* by Dr. Yjan Gordon

Astronomical Events for March and April

The Planets

Mercury sinks slowly into the evening sunset and will be difficult to see after the 8th. It returns to visibility in the morning sky after rounding the Sun and will be best visible on April 11.

Venus hangs above the horizon in the morning twilight but will become difficult to see in the brightening sky by the end of March. It will be joined by the thin crescent moon on April 1.

Mars is moderately high in the western sky, about 33 degrees up at the start of March and more or less hangs there through April. The moon passes by on March 11. On March 31, the planet passes under the Pleiades.

Jupiter hangs low in the south-southwest in the morning at the start of March and gradually climbs a little higher to the south as March moves into April. It is at a low point along the ecliptic and does not present well from out latitudes. The Moon will pass close to Jupiter on April 23.

Saturn is low in the morning southwest sky at the start of March and gradually moves to the southern sky at through April. Like Jupiter, it is poorly positioned for observing.

Low in the evening sky in March and behind the Sun in April.

Neptune is behind the Sun in March but can be found emerging in the morning in April.

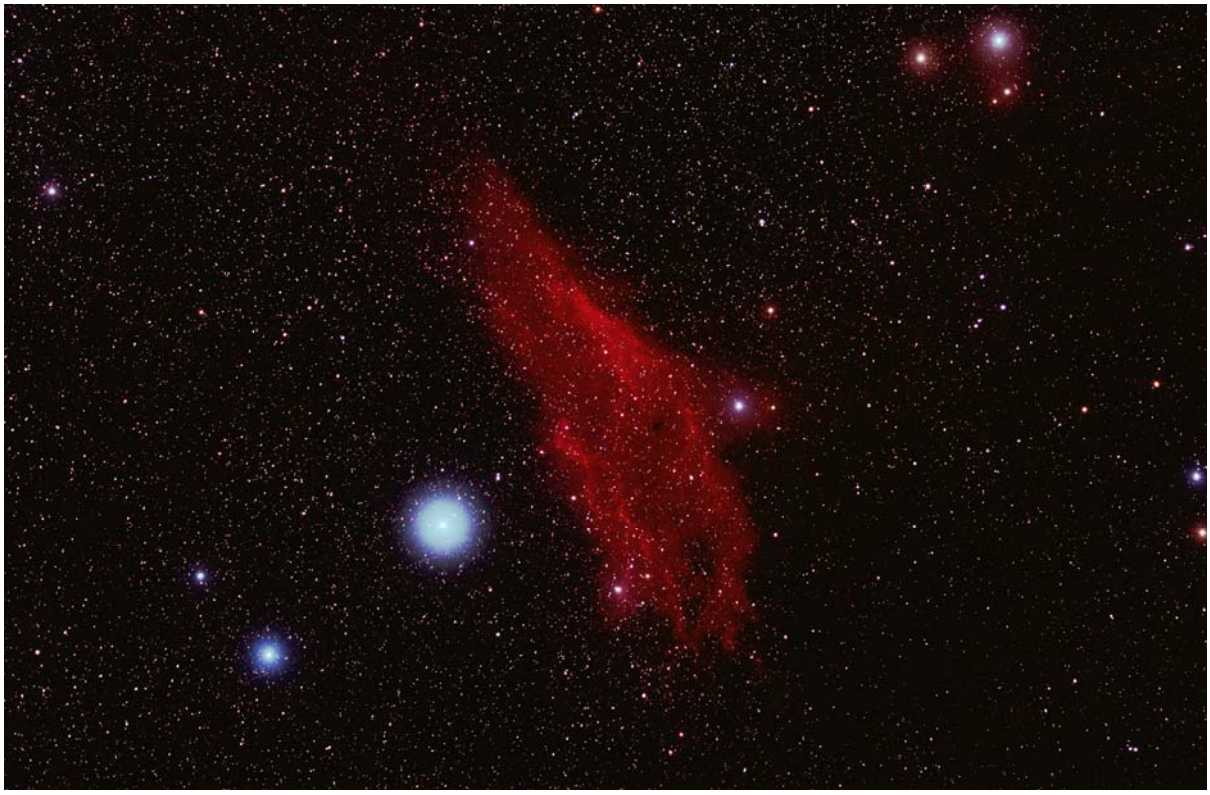
The Sky

The summer Milky Way begins to rise along the northeast horizon after 1 am and the Scutum star clouds are above the horizon by 5 am in March. By mid-April, the central part of our galaxy is well situated to the south at 5 am. The Milky Way lies low and parallel to the west horizon in the evening in early March.

Cygnus and the North American Nebula are well up in the east by mid-April.

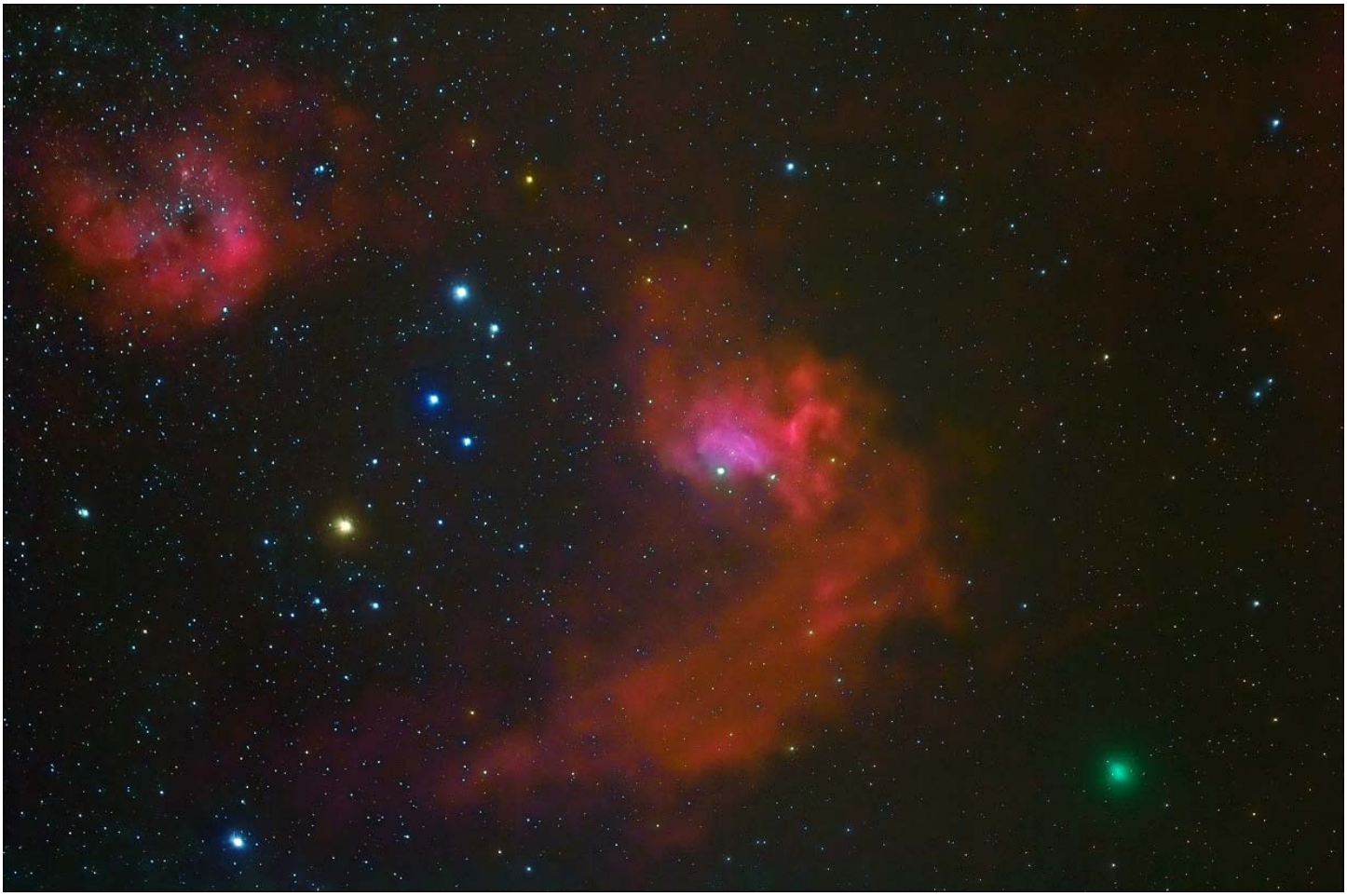
The galaxy zoo in Virgo and Leo is well-placed in March’s evening skies at midnight once the Moon gets out of the way. Full Moon is on the 20th.

Messier 41 (above) is an open cluster in Canis Major, hanging just 4 degrees below Sirius, the sky's brightest star. It is easily seen in binoculars, covering an area about the size of the Moon. M41 is about 25 light years across and lies at a distance of 2300 light years. NGC 1499, aka the California Nebula (below) is about 1000 light years away. The red colour, created by fluorescing hydrogen gas, is caused by the intense UV radiation from the hot O7 star xi Persei, seen to the lower left.

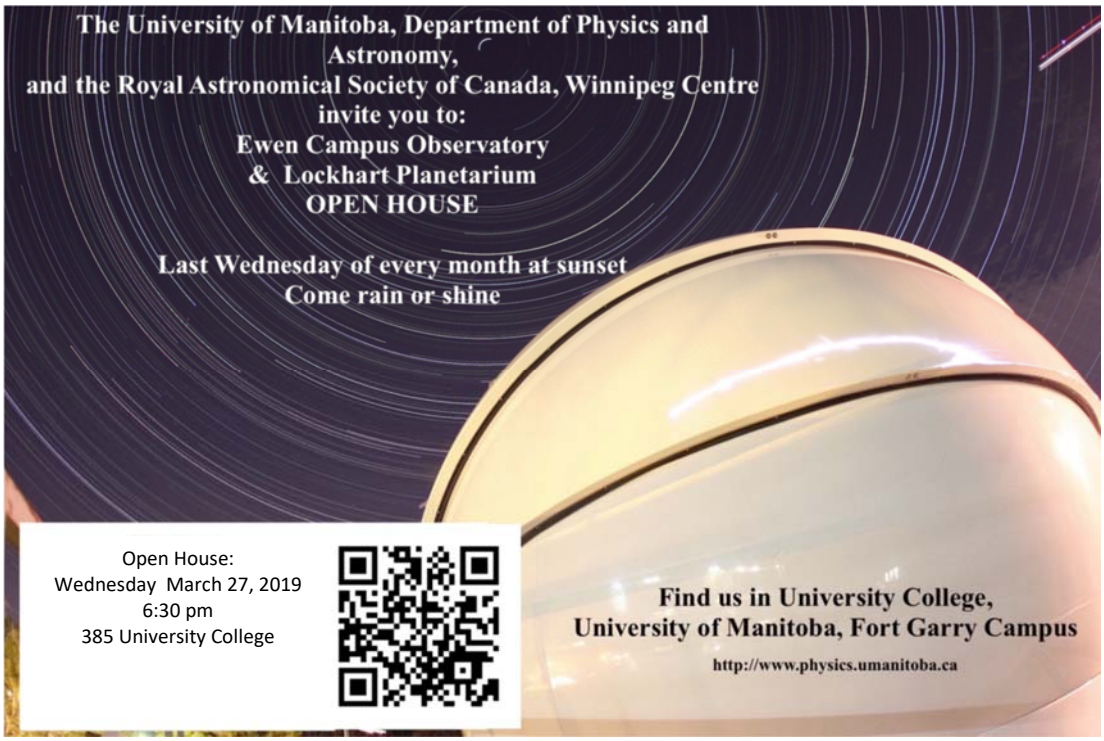


Sheila Wiwchar braved the cold and the alarm to catch this colourful morning scene on February 19. As Sheila says, "It was a beautiful sky just before sunset Venus and Saturn are in nice conjunction with Jupiter in the picture! And a setting moon at 99.9%illuminated in the belt of Venus :-) "

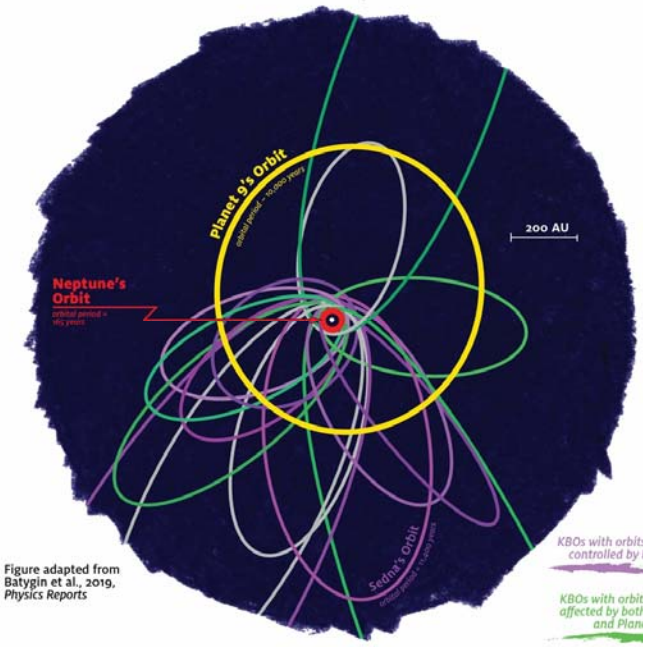
Sundogs are a common part of our Manitoba sky, but some dogs are better than others. On March 3, the sundogs were accompanied by a dramatic pair of extensions called the parhelic circle. The circle actually extended about 2/3rds of the way around the sky. A faint upper tangent arc can be seen at the top of the 22° halo around the Sun. Photo by Judy Anderson.



Sheila Wiwchar watched Comet Wirtanen come into a nice conjunction the Flaming Star Nebula, open star cluster NGC1893, and IC410. In her words, "...I just managed to get the scope up and get 5 subs before the clouds took over on the night." The images was taken with a Canon 60da/William Optic Star 71/Heq5/at 5x3min at iso6400.



Some late-breaking news in astronomy



Orbits of distant Kuiper Belt objects and the hypothesized Planet Nine. Orbits rendered in purple are primarily controlled by Planet Nine's gravity and exhibit tight orbital clustering. Green orbits are strongly coupled to Neptune and exhibit a broader orbital dispersion.

Planet Nine on more solid ground?

A newly published paper by a pair of Caltech astronomers sums up the case for the existence of a "Planet Nine," summarizing available observations into four lines of evidence. These four lines deal with peculiarities in the orbits of distant Kuiper Belt objects (KBOs) that seem to favourably cluster in one part of the sky. That clustering may be caused by a 5-to-10-Earth-mass object that orbits at a distance of about 600 astronomical units (1 au is the average Earth-Sun distance). The astronomers, Konstantin Batygin and Mike Brown, hypothesize that the putative planet's gravity has shepherded the KBOs into their unusual orbits. Though extremely faint, such a planet may be within the range of new survey telescopes currently under construction.

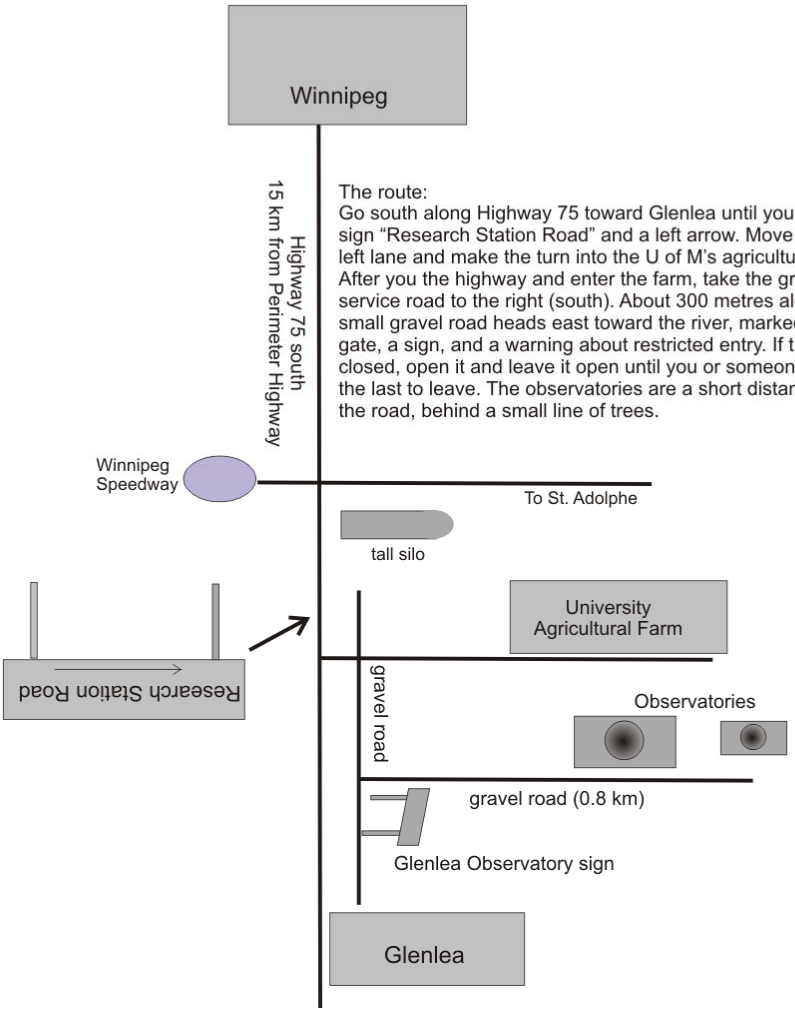
You want fries with that?

The Atacama Large Telescope Array has found evidence of sodium chloride—table salt—and other salts in a dusty disc surrounding a star in the Orion Nebula. The researchers speculate that these salts come from dust grains that collided and spilled their contents into the surrounding disk. Their observations confirm that the salty regions trace the location of the circumstellar disk.

The salty signatures were found about 30 to 60 AU) from the host stars. Based on their observations, the astronomers infer that there may be as much salt in this region as in the entire mass of Earth's oceans. The detection of salts around a young star is of interest to astronomers and astrochemists because some of constituent atoms of salts are metals – sodium and potassium. This suggests there may be other metal-containing molecules in this environment. If so, it may be possible to use similar observations to measure the amount of metals in star-forming regions.

Artist impression of Orion Source I, a young, massive star about 1,500 light -years away. New ALMA observations detected a ring of salt surrounding the star. This is the first detection of salts of any kind associated with a young star. The blue region (about 1/3 the way out from the center of the disk) represents the region where ALMA detected the millimeter-wavelength "glow" from the salts. Credit: NRAO/AUI/NSF; S. Dagnello

Finding the Observatory



The Winnipeg Centre maintains a working observatory and warm room at the University of Manitoba's Research Farm. The observatory contains a 30 cm Meade telescope on a fork mounting. Members of the Centre may sign out the use of this telescope provided they have first taken a short instruction course on its use.

The Meade provides outstanding views of the night sky. Its large aperture collects more than 1800 times as much light as the human eye. It is capable of magnifying more than 500 times under favourable conditions.

The warm room provides a convenient place for members to take refuge from winter temperatures and summer mosquitoes, or to wait out a passing cloud. The building also provides desk space and lighting for planning a night's observing session. A cement pad in front of the warm room and observatory provides a convenient space to place members' telescopes while conducting personal observing programs.

Etiquette requires that you approach the observing site with your headlights off if that's possible on your model of car. Headlights should remain off, but you can still use your parking lights to drive. Proceed slowly, and be careful about parked cars along the road, or people walking. If you cannot turn off your headlights, make a cardboard or garbage bag mask to dim the lights. You might wish to turn around at the end of the road so that you are facing the direction back toward the highway at the end of the evening.

Remember to close the gate if you are the last one to leave.