Winnicentrics

Newsletter of the RASC Winnipeg Centre

March/April 2024

Winnicentrics is the newsletter of the Royal Astronomical Society of Canada—Winnipeg Centre, Incorporated and is published six times a year. Any opinions expressed are those of the authour(s).

Submissions or comments can be sent via email to: newsletter@winnipeg.rasc.ca

Events at a Glance

Friday, Mar. 8, 2024:

Monthly Meeting

Featured Speaker: Dr. Marc Buie, "Latest results from the LUCY mission"

Saturday, Mar. 9, 2024:

Members' Observing Night

Member event at Glenlea 7pm

Host: Mike Karakas

Saturday, Mar. 23, 2024:

Telescope Tune-Up

See page 3 for details

Monday, Apr. 8, 2024:

Solar Eclipse Viewing Party

See page 4 for details

Friday, Apr. 12, 2024:

Monthly Meeting

Featured Speaker: Dr. Phil Ferguson, "STARLab and a Manitoba Satellite"

Saturday, Apr. 13, 2024:

Members' Observing Night

Member event at Glenlea 8:30pm

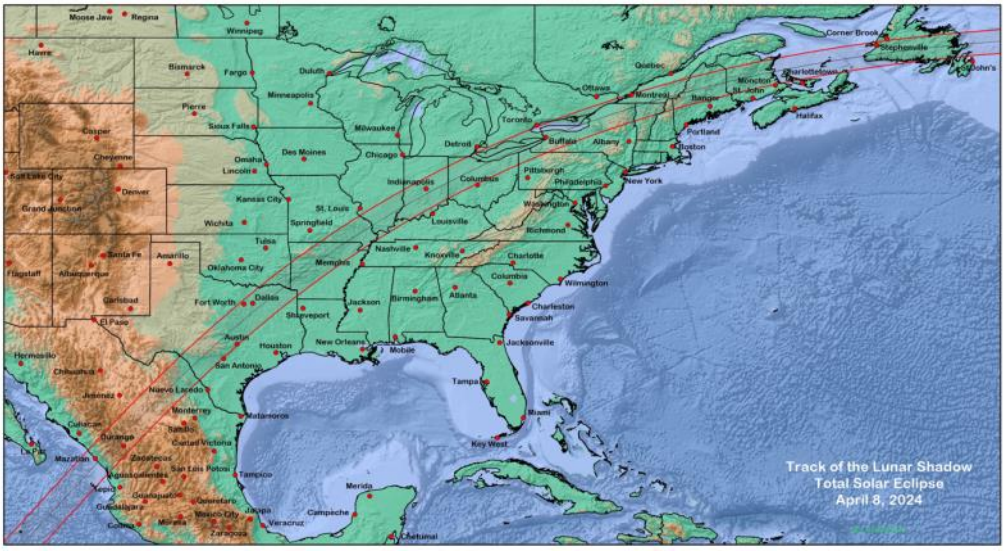
Host: Scott Young

April 8, 2024: Where Will You Be?

by Scott Young

Based on content from eclipsophile.com by Jay Anderson and Dr. Jennifer West

The total solar eclipse that crosses the continent this April is already being touted as "the most viewed eclipse in history". With a path that stretches from Mexico through the central United States and across eastern Canada, there are many options for travelers hoping to stand in the Moon's shadow. But where is the best place to be?



Location, Location, Location

When you're traveling, it's all about the weather on eclipse day. No matter where you go, April tends to be a cloudy month, and so being able to move a few hundred kilometres either way is a definite advantage. But where to go?

Luckily, Winnipeg Centre member Jay Anderson has you covered. The website Jay put together with former Winnipegger Dr. Jennifer West, eclipsophile.com, has detailed weather predictions for the entire eclipse path. There's information on how El Niño might change the usual predictions, making things more (or in some cases less) cloudy.

In general, Mexico looks to have the best chances of clear skies, followed by Texas. The forecast gets progressively worse as you head north along the path to totality, with most eastern Canada having 80-90% cloudiness on eclipse day. But, that doesn't mean the eclipse will be unobservable there—you really only need the right spot in the sky to be clear for the few minutes of totality.

If you're not traveling, the Centre is partnering with the Planetarium and Assiniboine Park to host a public eclipse viewing party, so join us there! Bring a safely-filtered solar telescope if you have one, and if you don't we can show you how to use the Centre's equipment. Cloudy or clear, it will be a good time!

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Visit us online!

Website: Winnipeg.RASC.CA
Facebook: RASC Winnipeg
YouTube: RASC Winnipeg
Forums: rascwpg.groups.io
(For details on how to use the forums and join the various subgroups, see page 13.)

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The President's Corner

by Dennis Lyons,

Winnipeg Centre President

Hello everyone,

As part of the March meeting we will have our Annual General Meeting with elections. If you have any interest in helping to shape what the Centre does, please consider letting your name stand for election. This year we have a Secretary, Director, and several Councillor positions to fill. If you have any questions, please reach out to myself or the other members of the nominating committee, Bryan Stach and Stan Runge. Please plan to attend either in person or online for the AGM to vote.

I would like to thank all the members of the current Council for volunteering their time to work on behalf of the members of the The RASC Winnipeg Centre Inc. If you did not know they meet once a month for two hours and also volunteer to either participate or run Centre and outreach events. If you see any current or past Council members (see the list on the left side of this page), please take a moment to thank them for their service.

The Observatory Committee is working on three things that Council has asked them to look into and make recommendations back:

⇒ Developing Glenlea as a member observing and training site;

⇒ Researching potential sites for public outreach;

⇒ Developing a viewing site at a location north of the city.

If you have any questions please contact Observing Committee Chair Michelle Boyce

A note of thanks to Judy for hosting the last members night. Even though it was cloudy, tours of the university's new dome happened, and stories were told over a pot of tea.

Well, hopefully with the nicer weather we will see some clearer skies we will all get a chance to look up

to see what we all enjoy, a night sky, good company and who knows maybe even a comet!

Clear skies,

Dennis Lyons,
President, RASC Winnipeg Centre

March Centre Events

Monthly Meeting & AGM Friday, Mar. 8, 2024	Regular meetings are usually held on the **second Friday of each month** in the Robert B. Schultz Lecture Theatre in St. John's College, 92 Dysart Road, on the University of Manitoba's Fort Garry Campus. To find the Theatre, enter through the front door and go down the stairs to the left, then turn right and go down the hall until you reach the large open area with tables. The Schultz Theatre is on the right. Regular meetings are "hybrid" meetings, with both in-person and online participation available. Members receive a meeting invitation with the Zoom link from the "rasc-main" forum on Groups.IO. The meetings are also live-streamed and archived on the Centre's YouTube channel at RASC Winnipeg. After the meeting's conclusion, members are invited to retire to Boston Pizza on Pembina Highway south of Bison Drive for an informal social gathering. (This portion of the meeting is not available online or live-streamed.)

7:00 p.m. Beginner Session - Dennis Lyons

7:30 p.m. Main Meeting and Annual General Meeting

- Dennis Lyons, Welcome & Announcements
- Annual General Meeting & Elections
- Bryan Stach—*"What's Up?"*
- Dr. Michelle Boyce—*"What's New"*
- **Featured Speaker:** Dr. Marc Buie of the Southwest Research Institute (SWRI)—"Latest results from the Lucy mission" including the recent Dinkinesh flyby and new occultation results

Saturday, Mar. 9: Members' Observing Night at Glenlea

Starts at 7 p.m. Monthly observing night for members. Come use the Centre's Meade 12" LX200 go-to telescope in the dome or one of the loaner telescopes on the observing pad, or bring your own. If the sky is cloudy, the event will run but will focus on training to use the facility. This month's host: Mike Karakas.

Saturday, Mar. 23: Telescope Tune-up 1 p.m. to 4 p.m.

Location: Eastview Community Church, 315 Maxwell King Drive, East Saint Paul, MB

This event will allow members of the RASC Winnipeg Centre to set up and become more familiar with their gear indoors during the day, ask for help from more experienced members, and share tips & tricks to get the most enjoyment out of this amazing hobby.

Activities include:

⇒ Optics Cleaning (supplies will be available for purchase)

⇒ Collimating your optics – why and how

⇒ Setting up: polar alignment, and aligning a GoTo Mount

⇒ Stellarium tutorial—using free software to find objects and even control your telescope

⇒ Tips for observing / imaging the April 8th eclipse

Weather permitting, there will also be solar observing and a demonstration of how to find planets during the day.

April Centre Events

Monthly Meeting Friday, Apr. 12, 2024	Regular meetings are usually held on the **second Friday of each month** in the Robert B. Schultz Lecture Theatre in St. John's College, 92 Dysart Road, on the University of Manitoba's Fort Garry Campus. To find the Theatre, enter through the front door and go down the stairs to the left, then turn right and go down the hall until you reach the large open area with tables. The Schultz Theatre is on the right. Regular meetings are "hybrid" meetings, with both in-person and online participation available. Members receive a meeting invitation with the Zoom link from the "rasc-main" forum on Groups.IO. The meetings are also live-streamed and archived on the Centre's YouTube channel at RASC Winnipeg. After the meeting's conclusion, members are invited to retire to Boston Pizza on Pembina Highway south of Bison Drive for an informal social gathering. (This portion of the meeting is not available online or live-streamed.)

7:00 p.m. Beginner Session - gAIL Wise's Constellation of the Month

7:30 p.m. Main Meeting

- Dennis Lyons, Welcome & Announcements
- Bryan Stach—*"What's Up?"*
- Dr. Danielle Pahud—*"What's New"*
- **Featured Speaker:** Dr. Phil Ferguson is head of the University of Manitoba's Space Technology and Advanced Reseach Lab (STARLab). He will speak on STARLab's work and the recent Manitoba-built CubeSat launched into space from the International Space Station.

Monday, Apr. 8: Solar Eclipse Viewing Party at Assiniboine Park

Come see the partial solar eclipse! Set-up begins at 11:00 a.m. outside The Leaf in Assiniboine Park. The eclipse begins at 12:54 p.m. Central Time and lasts until 3:10 p.m., with maximum 62% coverage at 2:01 p.m. We will need volunteers to operate some of the solar telescopes (training provided) and manage the potentially long line-ups, as well as volunteers to bring their own solar viewing gear. If you can attend please contact event coordinator Scott Young at newsletter@winnipeg.rasc.ca. Snacks and beverages provided for volunteers!

Saturday, Apr. 13: Members' Observing Night at Glenlea

Monthly observing night for members. Start time 8:30 p.m. Come use the Centre's Meade 12" LX200 go-to telescope in the dome or one of the loaner telescopes on the observing pad, or bring your own. If the sky is cloudy, the event will run but will focus on training to use the facility. This month's host is Scott Young.

Spacecraft News

by Jay Anderson

New Horizons' dusty transit

NASA's New Horizons spacecraft has been measuring a surprising amount of dust in its extended journey through the Kuiper Belt. The Belt is the extended outer reaches of the solar system, populated by thousands of small-to-medium-sized rocky bodies, some large enough to be classified as dwarf planets. The biggest, Eris, rivals Pluto in size; there are currently around 5200 known Kuiper Belt objects (KBOs).

New Horizons carries the Venetia Burney Student Dust Counter (SDC), which measures dust impacts for interplanetary dust particles (IDP) with masses ≥10^{-12} g. The SDC has been monitoring dust impacts since shortly after launch in 2006 and is now at a distance of more than 55 au. The SDC is mounted on the leading side of the spacecraft. New Horizons detects impacts by the change in surface charge density on a conducting surface in the SDC; as it recedes from the solar system, its velocity decreases, reducing the impact velocity of the IDP and causing a corresponding increase in the minimum detectable size of particles. Particle sizes are estimated from the magnitude of the change in charge density. The result is a map of dust particle flux from the Earth's orbit to the present position of the spacecraft. Beyond 42 au, the IDP measurements diverge considerably from those based on models derived from the inner solar system counts.

Interplanetary dust arises from the collisions of Kuiper Belt Objects and from the bombardment of the KBOs by other particles. The observation that solid particles have a substantial abundance at 55 au and beyond can be explained by several factors: radiation pressure in the inner solar system that pushes dust particles deeper into space; icy grains that undergo photosputtering (dissociation of water molecules by UV radiation) that increases their response to radiation pressure and pushes them outward; or that there are many more KBOs than current measurements suggest.

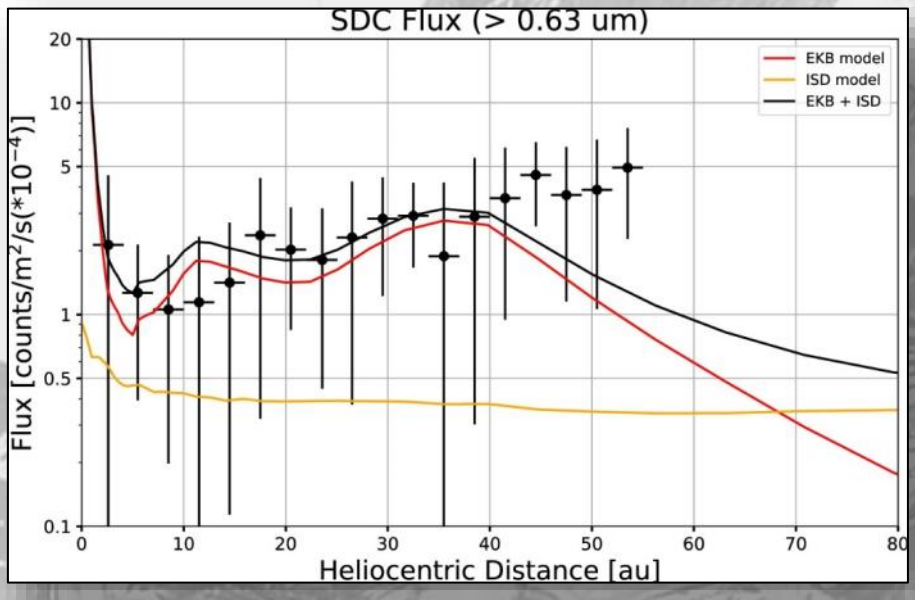


Figure 1: SDC flux estimates for particles with a radius greater than 0.63 µm from 1 to 55 heliocentric AU (Astronomical Units). Each point, with 1σ error bars, is an average of the flux measured by each detector across each 3 au traversed by the New Horizons spacecraft. The red and orange lines show the results from two models. The black line is a sum of the orange and red models to provide a more representative model of the total flux that SDC is measuring up to 42 au. Image: Alex Doner et al 2024 ApJL 961 L38

These readings come as New Horizons scientists, using observatories like the Japanese Subaru Telescope in Hawaii, have also discovered a number KBOs far beyond the traditional outer edge of the Kuiper Belt. This outer edge (where the density of objects starts to decline) was thought to be at about 50 AU, but new evidence suggests the belt may extend to 80 AU, or farther. New Horizons is expected to have sufficient propellant and power to operate through the 2040s, at distances beyond 100 au from the Sun. That far out, mission scientists say, the SDC could potentially even record the spacecraft's transition into a region where interstellar particles dominate the dust environment.

Fast radio bursts give up a few more secrets

NASA's X-ray telescopes, the Neutron Star Interior Composition Explorer (NICER) aboard the ISS and the Nuclear Spectroscopic Telescope Array (NuSTAR) in low Earth orbit, have offered insights into the enigmatic fast radio bursts (FRBs) originating from deep space. The observation focused on a specific FRB from a known magnetar (a star with an extreme magnetic field) within our Milky Way galaxy.

Fast radio bursts, though lasting only milliseconds, unleash energy comparable to what our Sun produces over a year, distinguished by their laser-like beam formation. Their ephemeral nature has historically made it challenging to trace their origins. However, this limitation changed when a magnetar within our galaxy, SGR 1935+2154, was identified as the source of an FRB, providing a tangible lead for astronomers.

Figure 2: Artist's concept of a radio burst erupting from a magnetar. [Image: NASA Goddard Spaceflight Center/Chris Smith (USRA)]

The event observed by NICER and NuSTAR has shed light on the behaviors of SGR 1935+2154, capturing the magnetar's activities before and after emitting an FRB. This magnetar, about 19 km in diameter and rotating approximately 3.2 times per second, demonstrated dramatic changes in its spin rate, experiencing "glitches" that altered its speed. Astonishingly, between two such glitches, the magnetar decelerated more rapidly than ever previously recorded, slowing down to less than its initial speed in just nine hours.

Chin-Ping Hu, the lead author of the study and an astrophysicist at National Changhua University of Education in Taiwan, highlighted the unexpected nature of this rapid deceleration, suggesting that these phenomena might be closely linked to the generation of FRBs. The backdrop to these observations involves the extreme conditions of magnetars, which are so dense that a teaspoon of their material would weigh about a billion tons on Earth. The intense gravitational pull and volatile surface conditions, characterized by regular bursts of X-rays and gamma rays, set the stage for the observed FRB.

Theories suggest that the magnetar's surface disruptions, possibly including cracks releasing material into space, could explain the observed rapid slowdown. Such mass ejections would naturally cause the spinning magnetar to decelerate, a phenomenon supported by the study's findings. However, with only one real-time observation of this nature, researchers remain cautious about definitively linking all observed factors to the production of FRBs.

Juno captures Io eruptions

NASA's Juno spacecraft captured two volcanic plumes rising above the horizon of Jupiter's moon Io on Feb. 3, emitted either by two vents from one giant volcano, or two volcanoes near each other. The JunoCam instrument imaged the plumes from a distance of about 3,800 kilometers.

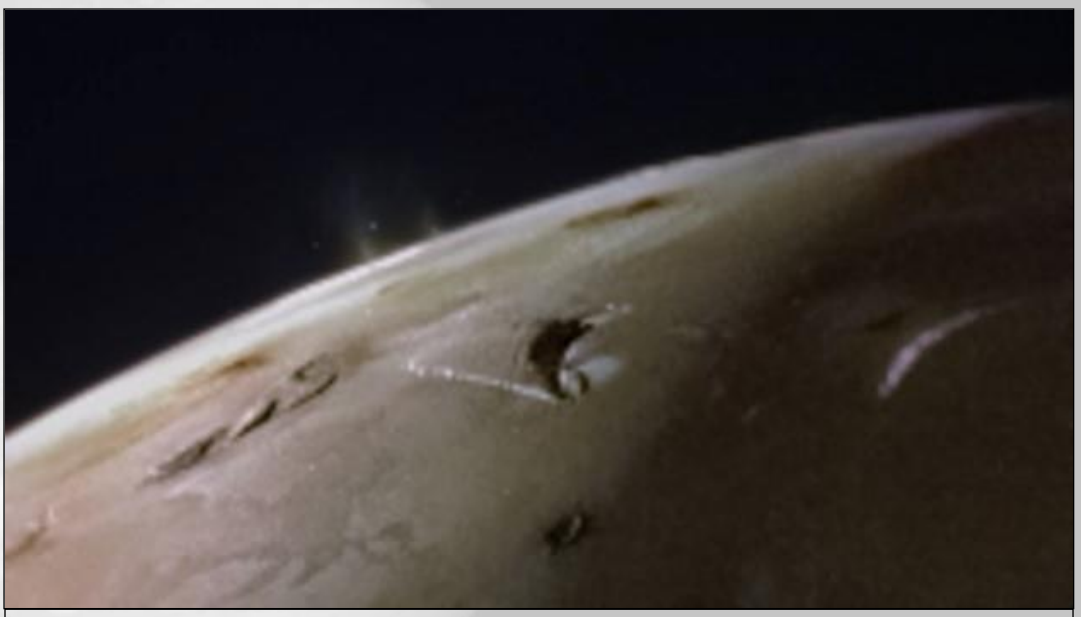


Figure 3: Two volcanic plumes rising from Io. [Image: NASA / JPL-Caltech / SwRI / MSSS / AndreaLuck / CC BY 3.0 Unported]

Io, the closest of Jupiter's Galilean moons, experiences a varying gravitational tug from the planet and its neighbouring moons as it both rotates and revolves in its slightly eccentric orbit. The result is an ongoing squeezing and stretching that generates heat in Io's interior—enough heat to melt rock.

All this back-and-forth forms a volcano world like no other. It's estimated that Io is home to roughly 400 active volcanoes, the lava from which can exceed 1,000 degrees Celsius. While only slightly larger than our moon, its volcanic peaks are far grander than anything on Earth. The largest volcano, Loki Patera, is roughly twice the size of Mauna Loa, Earth's largest volcano. The frequent eruptions on Io, some spewing gas and dust—primarily sulphur and sulphur dioxide—as high as 500 km into space, which, when the material returns to the moon, gives Io is remarkable yellow-, black-, green-, white-, and red-toned surfaces, and its nickname as the "pizza moon."

XMM Newton observes temperamental galaxy

ESA's XMM-Newton has caught a black hole in Markarian 817, a bright and variable Seyfert galaxy, in the act of 'flipping over the table' during an otherwise civilised meal. This act prevents the galaxy surrounding the black hole from forming new stars, giving us an insight into how black holes and galaxies co-evolve.

At the heart of every large galaxy lies a supermassive black hole, whose immense gravity draws in gas from its surroundings. As the gas spirals inwards, it bunches up in a flat accretion disc around the black hole, where turbulence causes the gas to heat up and glow. Over time, the gas closest to the black hole passes the point of no return and gets gobbled up.

However, black holes only consume a fraction of the gas spiralling towards them. While encircling a black hole, some matter is flung back out into space. In more dramatic episodes, a black hole will fling gas in the accretion disc out in all directions at such high speeds that it clears out the surrounding interstellar gas. Not only does this wind deprive the black hole of food, it also means no new stars can form over a vast region, changing the structure of the galaxy.

Until now, this ultra-fast black hole wind had only been detected coming from extremely bright accretion discs, which are at the limit of how much matter they can draw in. This time, XMM-Newton detected ultra-fast wind in a distinctly average galaxy that possesses only a modest accretion ring.

Southern Highlands

Mike Karakas' study of the Moon's southern regions. (See following page for telescope and camera details.)

Centre Member Benefits

As a paid member in good standing of the RASC Winnipeg Centre, you receive a number of benefits from the local group in addition to any benefits that come from the national Society. These include:

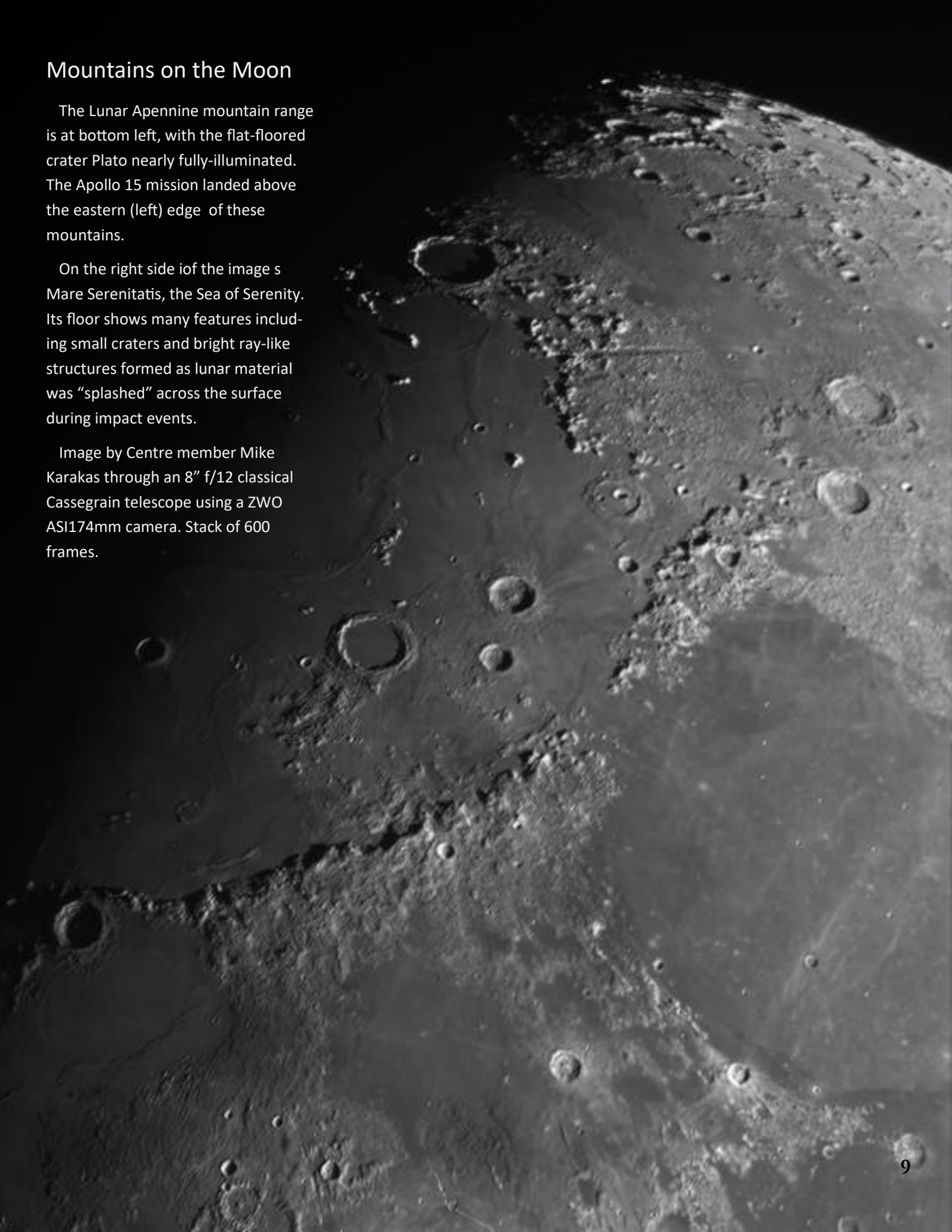
Access to the **Glenlea Observatory**, which features a 12" Meade LX200 computer-controlled telescope under a dome, a 14.5" truss-tube Dobsonian reflector, and a warm room. There's also a concrete observing pad with power hook-ups to set up your own telescope. **Member observing nights** are held once a month (usually on the Saturday after the regular meeting), and members can use the observing pad and warm room any time. Once you've taken the training course you can also book the LX200 dome for your own use. (Booking the observatory can be done by sending an email to the Glenlea booking coordinator at observatory@winnipeg.rasc.ca.)

Telescope Lending Library: The Centre also has a number of portable telescopes that members can borrow on a first-come, first-served basis. The current inventory includes reflectors, refractors, and SCTs of various sizes, as well as some specialized gear such as a Coronado Personal Solar Telescope.

Online Forums: The Centre has a series of Forums on Groups.io, which all paid members are automatically subscribed to so they can receive announcements from the Centre. You can also sign up for other forums depending on your interest - go to Groups.io and sign in with the email address you used to sign up as a member.

Other local benefits such as attending **meetings** and **special events**, a **mentoring** program for beginners, this **newsletter**, **voting rights** at the Centre's Annual General Meeting (usually held in January each year), and **opportunity to serve** on the Centre Council – the group of folks who put together meetings and run the Centre!

Mountains on the Moon



The Lunar Apennine mountain range is at bottom left, with the flat-floored crater Plato nearly fully-illuminated. The Apollo 15 mission landed above the eastern (left) edge of these mountains.

On the right side iof the image s Mare Serenitatis, the Sea of Serenity. Its floor shows many features including small craters and bright ray-like structures formed as lunar material was “splashed” across the surface during impact events.

Image by Centre member Mike Karakas through an 8” f/12 classical Cassegrain telescope using a ZWO ASI174mm camera. Stack of 600 frames.

What's Up for March 2024

Planetary Highlights

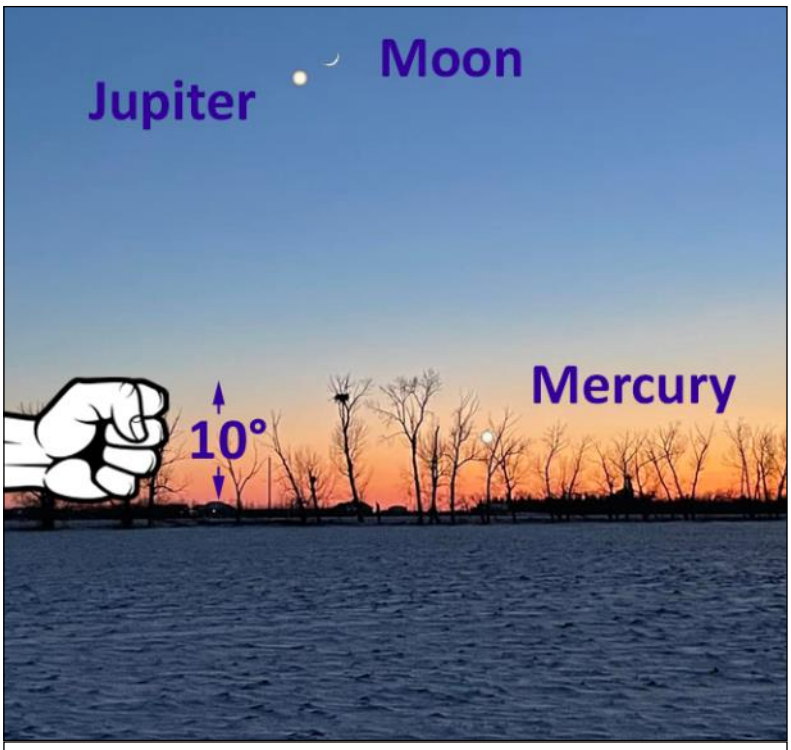
Mercury is at its best evening visibility of the year, peeking up above the western horizon in evening twilight about the 12th and rising higher each night until greatest elongation from the Sun with occurs on the 19th. It will probably easiest to see on the few days around March 16 when it is as its brightest and near its highest above the horizon.

Jupiter is visible in the west-southwest after sunset, and sets before midnight local time. Telescopic observers will want to catch it early before it sinks into the turbulent air near the horizon.

Mars is higher than Venus (see below) in the pre-dawn sky but much fainter, making it difficult to observe until near the end of the month. Mars will return to prominence in the second half of 2024 but until then it remains a less-than-impressive object.

Venus remains very low in the south-southeast just before sunrise, only visible because of its great brilliance.

Saturn is invisible for most of the month after its February 28 conjunction with the Sun. It reappears in the morning sky towards the end of the month, very low in the southeast before sunrise.



Mercury makes an appearance in the evening sky this month, very low in the west after sunset. This image shows the view on March 13th about 7:50 p.m., when the crescent Moon is near Jupiter.
[Image: Stellarium.org / Scott Young]

Celestial Calendar for March 2024

Fri Mar. 8 (morning): The razor-thin waning crescent Moon is very low below Venus and Mars just before sunset, but all three are very low in the sky and likely invisible unless you have a very clear atmosphere and flat horizon to the southeast.

Sat Mar. 9 to Sun Mar 10: Daylight Savings Time begins.

Wed Mar. 13 (evening): The waxing crescent Moon is to the right of Jupiter in the evening.

Thu Mar. 14 (evening): The waxing crescent Moon is close to the Pleiades star cluster, with those farther west seeing a closer approach.

Sun Mar. 24 to Mon Mar. 25 (morning): A minor lunar eclipse occurs in the wee hours of the 25th. Not the "blood moon" of a total lunar eclipse, the moon only passes through the outer part of Earth's shadow. The eclipse begins at 11:53 p.m. on the 24th, peaks at 2:12 a.m. on the morning of the 25th, and ends at 4:32 a.m. (times for southern Manitoba, but similar for most of the province). To sxee a simulation of the event, visit the Time and Date site for Winnipeg, or visit the general site and select your location.

What's Up for April 2024

Planetary Highlights

Mercury is visible for the first few days of April, very low in the west-northwest, but rapidly fades as it sinks lower into the evening twilight. It reappears in the morning towards month's end but stays very low for Canadian observers

Venus is lost in the solar glare during April. Watch for it to reappear in the evening sky in early summer.

Mars spends April too close to the Sun and too low in the sky to be easily visible this month.

Jupiter sinks low into the evening twilight by the end of the month, but early April sees it still hanging around low in the west. The crescent Moon is above Jupiter on the evening of the 10th.

Saturn reappears in the morning sky this month, slowly rising out of the twilight in the predawn sky, It lies close to Mars on the mornings of April 10th and 11th, but the low altitude of both planets will make this a very challenging observation. By the end of April Saturn is visible low in the ESE just before dawn.

Periodic comet 12/P/Pons-Brooks is visible in small telescopes in the evening sky, but will be a challenge to catch in binoculars. It passes near both Jupiter and Uranus this month. See the finder chart on the next page for details.

Celestial Calendar for April 2024

Mon Apr. 8 - Solar Eclipse: This eclipse will no doubt be one of the astronomical highlights of the year. Western Canada (and most of North America) will see a partial eclipse, while Ontario and points east have ready access to the path of totality. We'll be hosting a public observing session for the event at Assiniboine Park—see the details on page 4.

Wed Apr.10: Mars and Saturn are within a degree of each other low in the predawn sky, but probably invisible in the twilight, while the crescent Moon is above Jupiter in the evening sky.

Thu Apr. 11: Mars and Saturn are within a degree of each other low in the predawn sky, but probably invisible in the twilight.

Sun/Mon Apr. 21/22: The **Lyrid meteor shower** peaks in the early hours of April 22, but the nearly-full moon will wash out most of the meteors.

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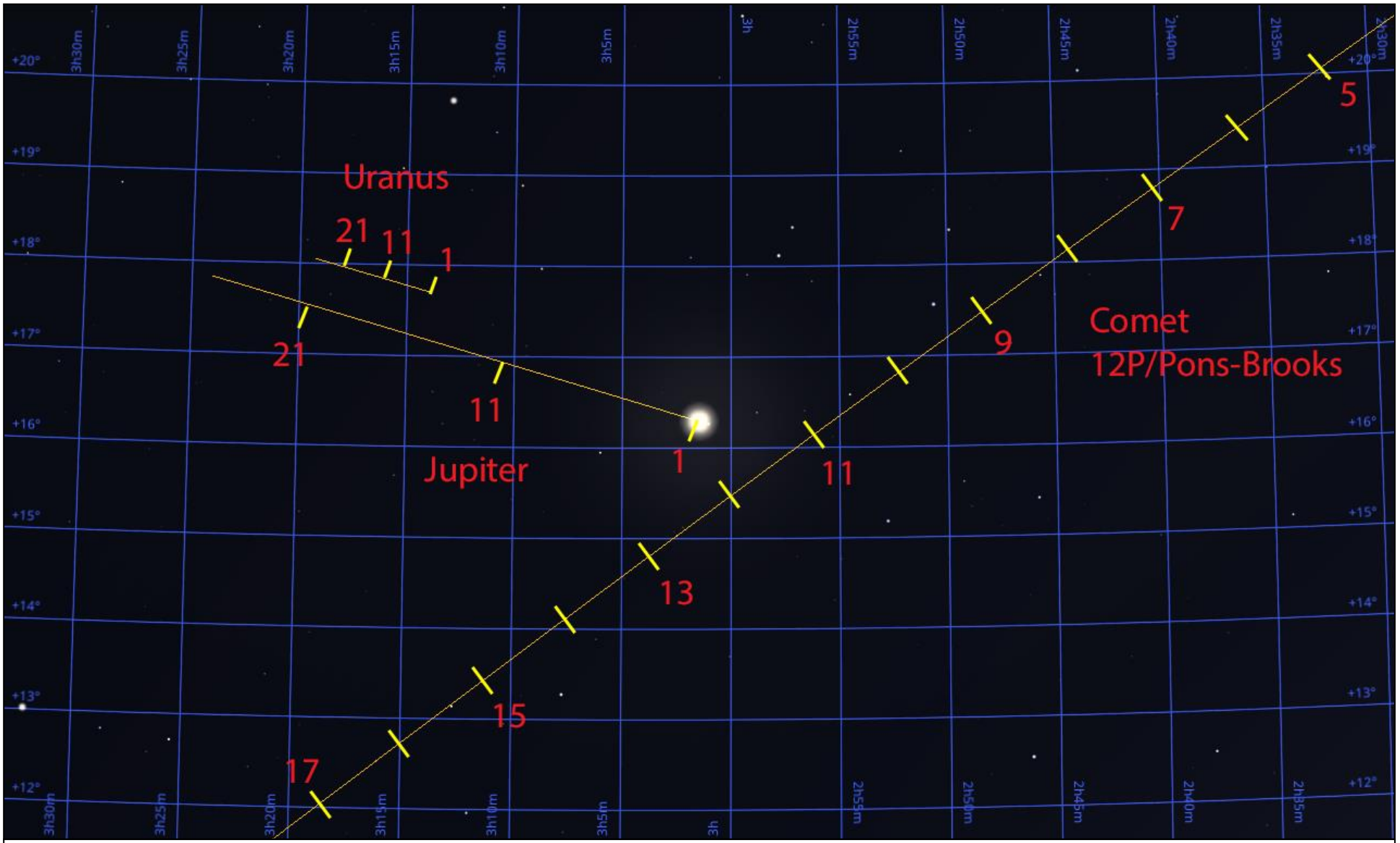


Periodic comet 12P/Pons-Brooks passes near Jupiter and Uranus in April's evening sky. The comet's position is shown daily at 9:30 p.m. Central

[Image: S. Young/Stellarium]

Groups.IO: How to Use the Centre's Forums and E-Mail Lists

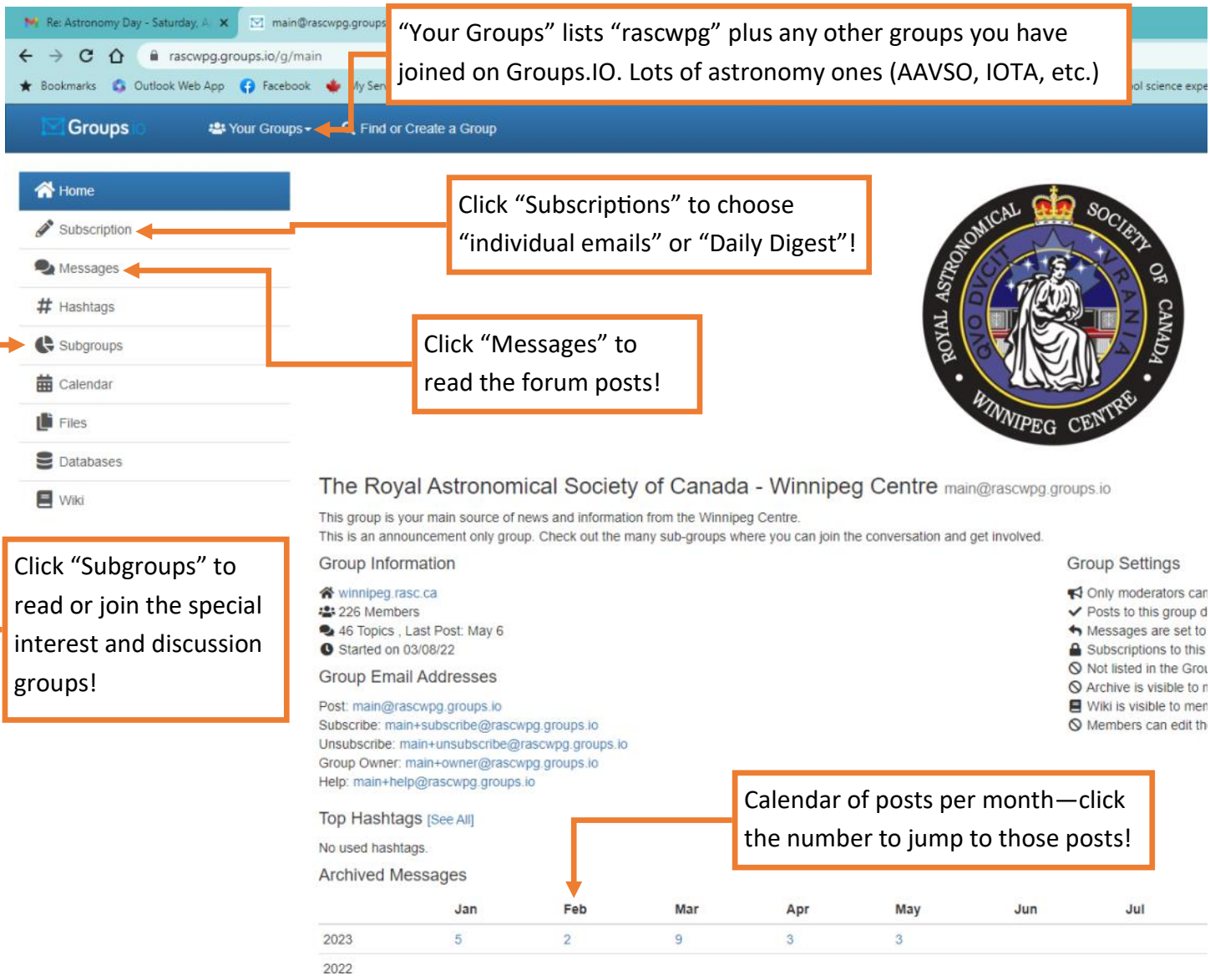
The Centre has moved to the Groups.IO platform for all of its forum and email services. This replaces the in-house forums and the old system of trying to mass-email all 200+ members. It really is a good system, both for the Council and for the users, but it is different and takes a bit of set-up.

If you've never used it before, it is very easy to access. Go to the website https://rascwpg.groups.io and click, "Forgot Password" when you are asked to log in. Enter the email that you used when you joined the Centre. You'll receive an email at that address telling you how to set up a password, and then you are good to go.

Once you've set up your password and logged in, you'll see a blue menu across the top of your screen. (See the next page for an annotated diagram.) If you click on "Your Groups", you will see that you are already subscribed to a group called "rascwpg.groups.io". This is the Centre's all-hands email, where we send meeting invitations, event news, and information we are required to send to all members (like calls for nominations for Board positions, news about the AGM, and so on).

When Council wants to send an email to everyone, they just make a post to this "main" group, and then everyone in the Centre gets an email. It helps prevent Centre mass emails from ending up in a spam folder or not getting through, and it also archives the email on the group where you can see it again. This "main" group can only be posted to by the Council Executive, and generates a few emails per month at most, so it shouldn't overwhelm most people with email.

(continued on page 11)



There's lots more than just the main announcement list, though. Click on "Subgroups" on the left-hand menu, and you'll be presented with a list of the various special interest forums attached to the rascwpg group. So far, there is a solar group, a sketching group, a binoculars group, a groups for posting astroimages,an armchair astronomy group, a buy & sell, an equipment discussion group, a solar system imaging group… you get the idea. If you are interested in a topic, click on that group and you'll be brought to that group's home page. You can click "join this group" here, and start getting the posts emailed to you, but you can also see how many messages have been posted in this group and even read them without joining. The calendar at the bottom shows how many posts were made each month, and by clicking on the number under a given month you will be shown the list of posts.

Some of the groups have a lot more discussion than others, though, and so you might not want 30 emails a day about a topic. Luckily, you can adjust the settings for each group. Go to the group you want to adjust, and click "Subscription" on the left-hand menu. This brings up the options for that group. You can elect to receive emails as individual messages as soon as they are posted—this is the best setting for the "rascwpg-main" group because it may contain timely information like a meeting change or observing session cancellation. For other groups where the information isn't time-sensitive, then "Daily Digest" is a good option—you'll only get one email a day from that group, containing all the posts that have been made that day. This prevents your email box from being flooded, but also sends you the content rather than you having to go look for it.

Every time someone posts to a group, every member of that group gets an email according to their personal settings. The emails are also archived, forming a valuable reference of the Centre's activities and discussions. There are some really good nuggets of wisdom in the forums already, and it would be a shame to lose them.

The key things to remember about Groups.IO:

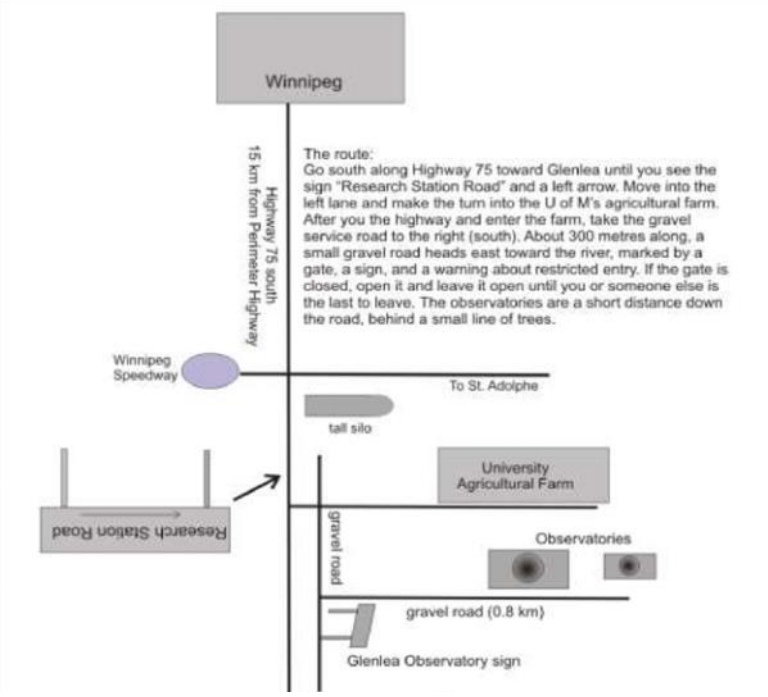
⇒ **if you unsubscribe from the "rascwpg-main" group, you will not receive Centre emails**—this is the only way they are sent out! Please don't do this, or you will not receive important information like noties of meetings, calls for elections, and other important stuff,

⇒ Most conversation happens in the "rascwpg-general" forum, which roughly duplicates the function of the old RASC email list. Other groups are more focused in their topic. If you're not sure where to post a specific question or idea, "general" is the place for it.

⇒ You have to set your email preferences for each group—if you want daily digests, you have to set that up in the group's home page.

If you'd like help getting set up on Groups.IO, email newsletter@winnipeg.rasc.ca and we'll figure out a way to walk you through it.

Glenlea Observatory

The Winnipeg Centre maintains a working observatory, pad, and warm room at the University of Manitoba's Research Farm. The observatory dome contains a 30cm (12") Meade LX200 telescope on a fork mounting. Members of the Centre who have taken the training course can reserve this telescope by emailing observatory@winnipeg.rasc.ca.

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 or, raise the parking brake lever one click-stop. This usually turns the headlights off on most, if not all, cars. 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.