Winnicentrics

The Royal Astronomical Society of Canada - Winnipeg Centre

Upcoming Events

RASC Winnipeg Centre Monthly Meetings (via Zoom)

November 12, 2021
December 10, 2021

Members' Observing Nights

November 13, 2021
December 11, 2021

Oak Hammock Marsh Astronomy Night

Cancelled for telescopes

Regular meetings of the Winnipeg Centre are normally held in the Robert B. Schultz Lecture Theatre in St. John's College at the University of Manitoba, 92 Dysart Road. Free parking is available in the lot across the street. 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.

However, due to the current restrictions imposed by Manitoba Health for the COVID-19 Pandemic all meetings are being held via Zoom at 7:30 PM on regular meeting nights as above. Regular meetings will resume once restrictions are eliminated and our members can meet in safety. We miss you!

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YouTube https://bit.ly/2FrcZJZ

https://bit.ly/3iSmFed

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Gord Tulloch
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Gord Tulloch

Winnicentrics is published six 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. Any questions or comments please email:
newsletter@winnipeg.rasc.ca
Or contact one of your Councillors above

Quick Notes

The Glenlea Observatory LX200 / Dome is OPEN. Please contact **observatory@winnipeg.rasc.ca** for current info, assistance, or to request training on the telescope and dome. Glenlea Warm Room and Pad are OPEN but please observe any Public Health requirements in effect.

Members Observing Nights are held the Saturday night after the Monthly meeting (weather permitting) at the observatory.

Member Meetings continue to be virtual due to COVID restrictions, please see your email or the RASC Winnipeg Forums for Zoom information.

Boston Pizza after-meeting social events continue to be virtual due to COVID restrictions, please see your email or the RASC Winnipeg Forums for Zoom information.

Visit our web site at:
www.winnipeg.rasc.ca
Visit our Facebook group at:
www.facebook.com/groups/rascwinnipeg

NOTICE

The membership ratification vote on our new by-laws will be held during a special segment of our regular monthly meeting at 7:30 p.m. on Friday, December 10.

Your council is working hard to mature and grow our organization. One of the steps in this journey is the modernization and ratification of our by-laws. As a member, we encourage you to be aware of our new by-laws and to vote on them. You can obtain a copy of them by logging into our website at https://winnipeg.rasc.ca/, and then press 'Internal' and 'Bylaws and Regulations'.

By-laws are important because they set out the foundational rules for how the organization is run and what its purpose is. Having new by-laws that are approved by our membership is an important step on our road to incorporation.

The work on our new by-laws started in the spring of 2021 with a final draft completed in the summer. A by-laws review session was held for members during our October 8 monthly meeting. There will be a chance for members to review them again in our next monthly meeting on November 12.

We encourage you to take an active role in the growth of our organization by participating in the vote on December 10.

President's Corner

By Dennis Lyons, RASC Winnipeg Centre President

Hello all,

Well, we finally had some nice nights for observing and aurora watching. Public outreach is starting again with events recently held at Spruce Woods, Tipis and Telescopes and Scouts Canada. More events are coming up and there will be a need for volunteers. Watch the website [and this newsletter! – Ed.] for announcements. In between this the Council has been busy. At our December meeting everyone will have a chance to vote on the draft bylaws. I hope you have some time to review them on the members section of the website. Later in the newsletter you will see how you can participate in this years Telescopes for Kids initiative. Another exciting initiative is a The Binocular Interest Group. Darren Henning will be heading this up. Not only will you learn more about using your binoculars The Binocular Interest Group will be working on both the Explore the Universe and the Moon Certificates. Check out the members section on the website for more information soon. Also, a beautiful set of binoculars and tripod have been donated and will be used in the loaner program so more people can get started.

Two new committees are now in place the Finance and Observatory. The Finance Committee will support the Council and the Observatory Committee is conducting a review on what could be done in the future. Check out the website and this newsletter for more updates from these groups.

The Council is recruiting for several volunteer positions that require only a couple of hours a month. The two currently being canvassed for are the Volunteer Coordinator and the Meeting Coordinator. Interested, please let one of know on Council so we can give you all the details.

Bryan Stach is heading up the Nominating Committee this year. If you are interested in running for a position on Council or to be nominated for appointment to one of those positions, please let him know. The positions to be filled can be found in the draft bylaws.

Do you remember Dr Ed Cloutis our speaker from a few months ago? Well, he has agreed to organize a "Mars Geology" Field trip for the members in the Spring. More to come on that later.

Just wanted to remind the membership that the Scope Loaner program is now available again.

In support of all this Council has a group of volunteers working on the Operations Manual which will hold all the "how to" information for the Centre in one place.

Finally, just a reminder for everyone to check when your membership is expiring. There is a two-month grace period in case you missed it but after that your membership will be cancelled. Not sure you can make it? Then let someone on Council know and we will see what can be done.

Clear Skies,
Dennis Lyons

Editor's Message

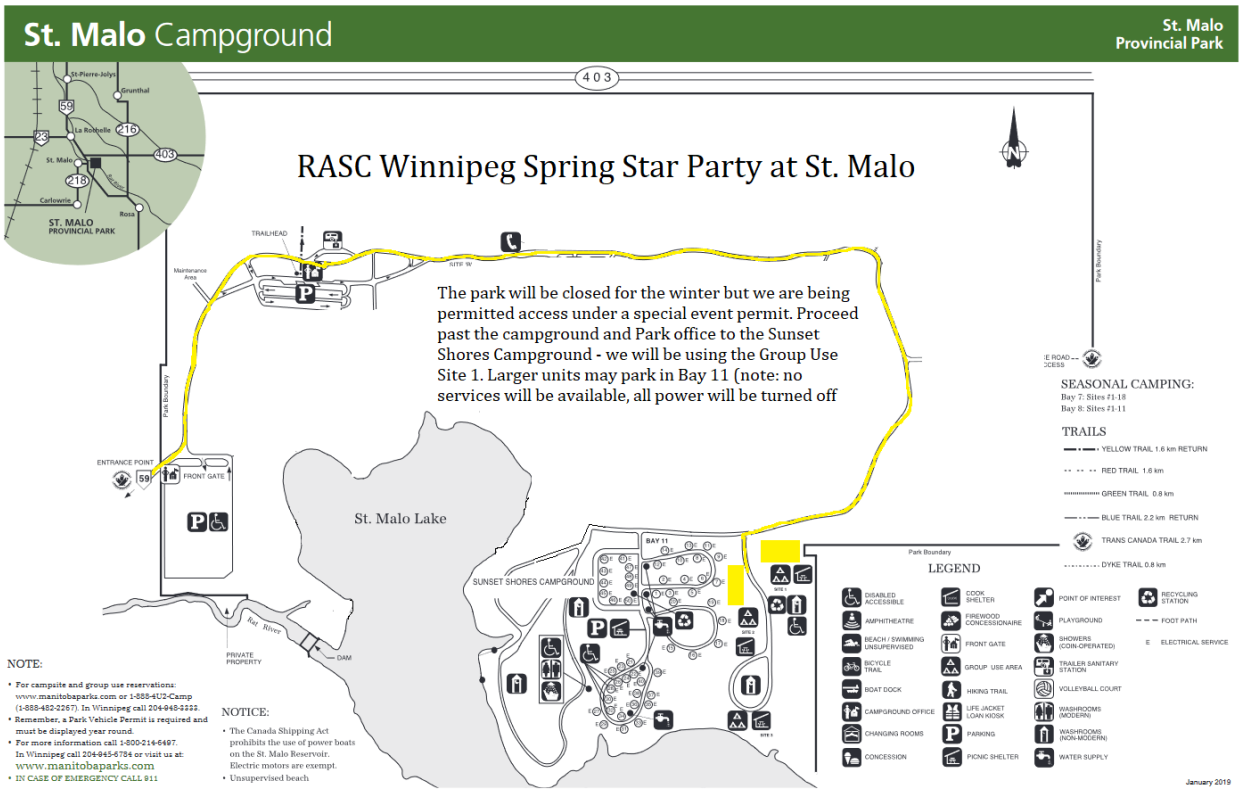
By Gord Tulloch, RASC Winnipeg Centre

This time of year as our thoughts turn to family, celebrations, food and gifts, we should also consider sharing the gift of Astronomy with others, particularly to create love of the hobby in young people. During outreach events we've met many kids who have expressed a definite interest in the hobby, but some of them come from economic circumstances that make it difficult for Mom and Dad to put a telescope under their Christmas Tree (or whatever cultural traditions they follow.) Last year RASC Winnipeg Centre was fortunate to "luck into" a couple of telescopes which we gave away to a couple of young people based on an essay contest. This year we hope to give away some more telescopes!

You can participate in two ways – first of all if you have any astro gear (telescopes, binoculars, eyepieces, filters, flashlights, books, etc.) that if surplus to your needs, please consider donating them. Even if you don't happen to have anything handy, you can certainly help out the effort with a cash donation to the project GoFundMe page at https://www.gofundme.com/f/telescopes-for-kids. Funding obtained in this manner will fund things like buying a reasonable quality Zoom eyepiece to replace the often truly awful eyepieces that come with lower end telescopes.

Any questions or comments please feel free to contact telescopes4kids@winnipeg.rasc.ca or check out the web page at https://winnipeg.rasc.ca/telescopes4kids. Please also feel free to share the graphic below as widely as you can for kids to enter. Thanks!

Call for Volunteers – Spring Star Party at St. Malo



As you may have seen on the website and elsewhere, your Council has approved a Spring Star Party to be held at St. Malo Provincial park in the Sunset Grove Campground and Group Use Areas April 30-May 1, 2022. This St Malo Star Party (SMSP) will be similar to our annual Spruce Woods Star Party (SWSP) albeit a day shorter.

It takes a lot of work to run a Star Party! A huge amount of credit accrues to Silvia, Gerry, and the folks who ran the SWSP this year and every year. Here are the roles that are required to run a Star Party:

Chair, Star Party Committee – This person interacts with Council to get decisions on any relevant issues, request funding and work with the Finance Committee on financial aspects of the event, and report on progress. Also responsible for filling the roles below, conducting regular progress meetings, and working with incumbents to remove any obstacles they may encounter. Our VP Gord Tulloch is acting in this role for the first event but is more than willing to be replaced!

Advertising, Marketing & Promotion Coordinator - This individual oversees the marketing, promotion and advertising for the Star Party website updates, Facebook, and e-mail list updates

Registration Coordinator – Responsible for registration task, working with webmaster for online registration, dealing with questions, maintaining the list, and ensuring that someone is manning a table at the venue to take in-person registrations.

Keynote & Workshop Coordinator – Person to secure presenters for the keynote address as well as workshops and presentations at the venue.

Call for Volunteers – Spring Star Party at St. Malo (cont.)

Swap Table Coordinator – Coordinate setup, promotion, and operation of a Swap Table at the venue.

Scope Tour Coordinator – Coordinate setup, promotion, and operation of a Scope Tour event at the venue.

Observing Site & Camp Coordinator – Work with the park to secure accommodations, complete the event application, ensure the park is ready for the event, set up signs and directions to the venue, lines up site escorts to guide participants to their sites, coordinates porta-potty siting and maintenance, rents generators and sites them away from participants, sites any campfire and group refreshment areas so as not to interfere with observers.

Refreshments and Meals Coordinator – Coordinates any meals that will be part of the event (likely a banquet or potluck and Sunday breakfast) as well as refreshments that may be part of the hospitality shelter.

This may seem like a lot of work but many hands make light work – where we run into real problems is when one or two enthusiastic members end up doing the majority of this work, which isn't sustainable and ends up producing burnout. Of course, each of these roles on the Star Party Committee will need helpers as well, so **if you hesitate to commit to a larger role, please undertake to assist** in one area or another.

At the end of this initiative, it is hoped that the persons in these roles will wish to continue working as a Star Party Committee and assist in the Fall event also. Your Council is working hard to increase the number of fun activities for the membership but is also unable to sustain this level of activity without active participation from the membership. **If sufficient volunteers do not come forward, the St. Malo Star Party will unfortunately need to be cancelled.**

If you would like to volunteer for a role, or just to offer a hand when one is needed, please send a note to: **events@winnipeg.rasc.ca** and express your preference. Thank you for your anticipated assistance!

GLP-TRAINED USERS AND SPOTTERS

The following Members have received training in the proper use of Green Laser Pointers and may apply to receive a permit to conduct an astronomy outreach session in accordance with applicable law and RASC policies respecting green laser pointers.

6 February 2021 (expires 5 February 2024)

Paul Paradis

9 August 2019 (Expires 8 August 2022)

Abdul al Manni	Patrick Curry	Kaeren Anderson	Kevin Davis	Ed Rajfur
SHR Bannister	Michael Fry	Michelle Boyce	Darren Hennig	Stan Runge
Sean Ceaser	LLoyel Hull	Ralph A. Croning	Paul Karlowsky	Bryan Stach
Clifford Levi	Dennis Lyons	Alan Macklem	Jim Mcdowal	Gordon Sharr
Krzysztof Keller	Daemon Nightshade	Gail Wise	Brian Renaud	Ed Wright

11 August 2019 (Expires 10 August 2022)

Jay Anderson	Judy Anderson

13 December 2019 (Expires 12 December 2022)

Trevor Bryant	Stephen Altstadt	Ed Johnson	Robin Clarke
Adelle Kennedy	Lucille Eustache	Timothy Kennedy	William McDonald
Kevin McGregor	Michelle Paquette		

Call for Volunteers – Meetings Coordinator, Volunteer Coordinator, and Webmaster

Our organization exists to give amateur astronomers a place to share learning, expertise, and enjoyment of astronomy, and to give the public a better appreciation and understanding of astronomy. The strategic planning process in early 2021 identified three key roles that are important to help our organization mature and better satisfy these needs – **Meetings Coordinator**, **Volunteer Coordinator** and **Webmaster**.

We are seeking interested members to volunteer for these three roles. Each position is described below. We encourage you to apply if you are interested in helping support the growth of our organization and feel that you have some of the appropriate knowledge and skills. Volunteers will be given time to grow into these positions with help from council. The application questionnaire is here for you >> https://forms.gle/WBfq9fDNZagyJb71A

Meetings Coordinator

The Meetings Coordinator will be an important component of our goal to expand programming and attract more remote users (non-members). Specific responsibilities for this role include:

- Plan, prepare, and coordinate presenters for our monthly member meetings including presenters for our standard agenda items – "What's Up", "What's New", and the main presentation. (All Council members are engaged to attract and enlist main presenters for our meetings.)
- Finalize the agenda for each monthly meeting.
- Track our progress in planning the agenda of regular meetings.
- Facilitate our return to in-person meetings at the U of M campus while maintaining the technology to access remote speakers with Zoom/FB/YouTube streaming in real time.
- Plan the ongoing meeting content strategy to continuously improve the value provided by our monthly meetings including the mix of topics and modes of presentation (e.g., pre-meeting workshops when in-person).

Volunteer Coordinator

The Volunteer Coordinator will facilitate the recognition and rewarding of volunteers thereby improving the recruitment and retention of our base of volunteers. Specific responsibilities for this role include:

- Organize and track planned requirements and recruitment of volunteers
- Consult with Council to design a volunteer award-recognition program
- Track the activities of the members who volunteer
- Organize recognition awards for volunteers
- Communicate to members about the state of membership engagement in volunteering
- With help from council, develop a management tool that will facilitate recruitment of volunteers
- Manage a database of volunteers

Recruiting [cont.]

Webmaster

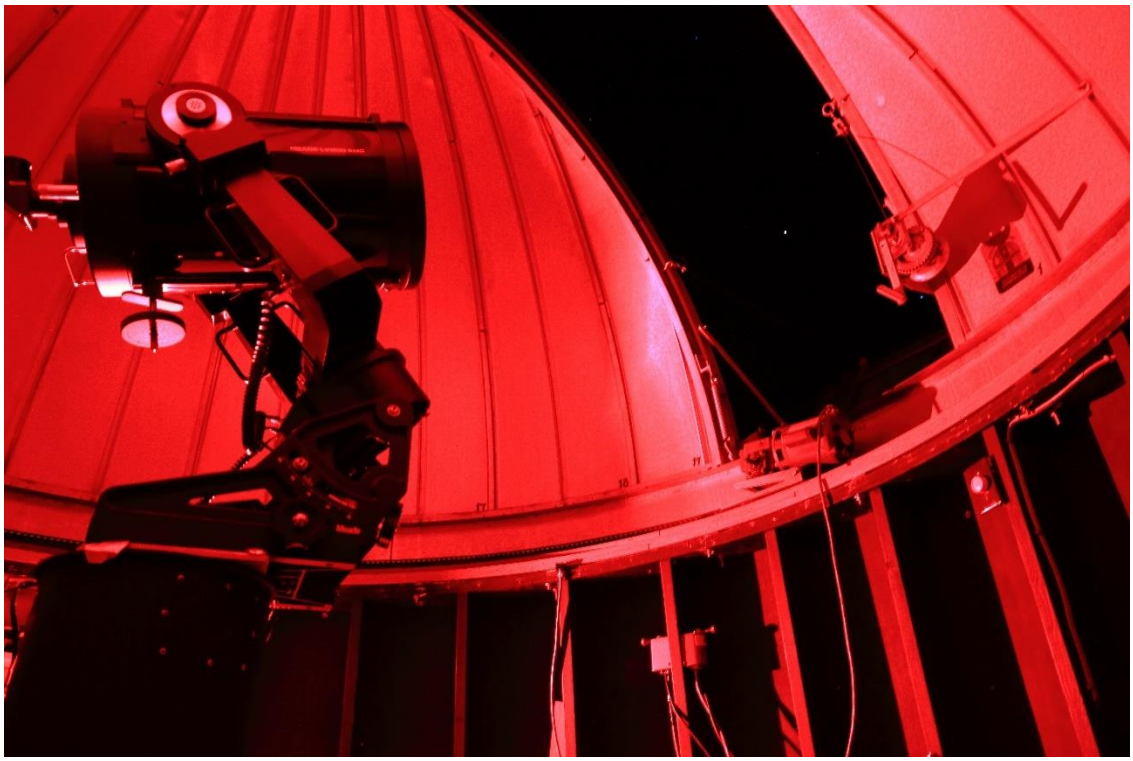
The Webmaster will facilitate the ongoing management and expansion of our website (based on WordPress) in coordination with Council, Committees, and the Membership Coordinator. As much of the website has been built, this role has primarily become one where content is updated. Specific responsibilities for this role include:

- Add and update content on the web site as requested by Council and Committees
- Consult with Council to expand or improve various aspects of the website
- Assist the Membership Coordinator in adding and removing users from the website
- Keep track of annual software renewal requirements and inform Council when they are coming up
- Moderate the website Forums

Bradley Kulbaba - Comet 29P, Schwassmann-Wachmann. This was a stack of 3, 90 second exposures through a V photometric filter, dark subtracted only. Image taken bin1 with ASI 183 mono cooled through a 102mm objective at F7 for a 714mm focal length

Observatory Committee Report

By Gord Tulloch, Chair, Observatory Committee



The LX200 telescope in operation

The Observatory Committee consists of the following RASC Winnipeg Centre Members:

Gord Tulloch (Chair)	Bryan Stach	Jay Anderson	Stan Runge
Mike Karakas	Wing Kwong	Steve Alstadt	Dennis Lyons (ex officio)

This committee was created to replace the appointed Observatory Director position (thanks to Bryan for long term service in that role!) as part of the outcomes of the Strategic Plan to broaden the number of people who are dealing with the Observatory so more members can be trained and assisted in using the Observatory (which can be broken down into the dome, the warm room, and the pad.)

The Terms of Reference for the Observatory Committee can be found on the website under the Internal / Meeting Agendas and Minutes / Observatory Committee menu options. Minutes of the meetings can also be found there. Note these minutes are pretty raw so just because something gets mentioned doesn't mean it's happening! All decisions are passed to Council and if significant, the Membership.

The Committee has met twice, once via Zoom and once on site. Some of the recommendations that will be made to Council resulting from these meetings are:

- Discussions about key distribution and rekeying the locks – decision to recommend to Council that the locksets should be replaced with keypads so the code can be changed periodically without having the collect and distribute keys. Locks haven't been changed for many years (ever?) so many keys are in circulation.

Observatory Committee Report (cont.)

- The University of Manitoba will be consulted to determine if they are open to expansion of the Pad and addition of AC outlets around the Pad and at the edge facing where members park to enable plugging in vehicles during winter observing. U of M owns the pad so they have the final say.
- Additional seating and tables (picnic tables?) should be procured and installed. Build an additional table like the existing from extra lumber.
- Committee members need to assist in training sessions – probably a good idea to hold a session for Observatory Committee members to get everyone on the same page.
- Mentors need to be trained in using the dome so they can train Learners.
- An enclosure should be built on the Pad for the 14" dob so it can be used just by rolling back the enclosure rather than needing to roll it out, assemble, collimate.
- A variety of Internet options have been discussed – some question as to why it is required if we are not (yet?) embarking on automation of the dome? More discussion / input required.
- An all-sky camera was suggested but also dependant on Internet.

Timeline for an enclosure for the 14" and new tables/seating is Spring 2022 since no input is required from U of M. Depending on discussions with U of M, additional pad enhancements may be forthcoming as well.

Currently discussions on the dome are inconclusive. Options range from doing nothing and continuing with the existing setup, to full automation (approx. $30k so fundraising would be involved) to removing the dome and replacing it with a runoff roof building have been floated. The wisdom of building on a flood plain is always top of mind in these discussions. Creating a facility at other dark sky sites is also a possibility. The Committee will continue to explore options and report back to Council and the Membership with ideas. Any requests, comments, and questions can be directed to observatory@winnipeg.rasc.ca.

Spruce Woods Star Party Wrapup

By Silvia Graca, SWSP Committee Chair, RASC Winnipeg Centre

Gerry Smerchanski checks out the sky at dusk Saturday night (Judy Anderson)

The Spruce Woods Star Party 2021 was another success! Three nights under Manitoba's one and only Dark Sky Preserve! (https://skynews.ca/dark-sky-sites/)

The star party was held on the September long weekend during new moon - this is the best time for astronomy as we experience calmer weather, we get more hours of darkness, less mosquitos (if any!) and less fire and smoke risk.

The conditions this year were wonderful and so many special astronomy delights put the icing on the cake! We saw many meteors, and so many cosmic targets along that Milky way, Jupiter's moons also put on a display as they crossed the planet's disk and cast their shadow on the gas giant, and then observers were delighted to wait and witness Io and Europa emerging out of the planet's shadow.

Getting away from light pollution and experiencing a dark sky is an awe-inspiring experience, and what can make this situation even better? Gerry Smerchanski's 2.5-hour sky tour complete with storytelling, guiding us through galactic dust lanes, star clusters, nebulas, planets, and so many celestial wonders of the night sky.

During daylight, Michelle Paquette took us through an organized telescope tour of the entire observing field, we learned about so many different ways people set up their equipment, then Dennis Lyons orchestrated a pirate themed swap table event that had our full attention and made us laugh as astronomy treasures were sold at a steal of a price (Rrrrrrrr!), various members presented on some really awesome "DYI" astronomy projects, and then we were treated to 2 amazing feature speakers, Dr. Danielle Pahud talked to us about the heart of our solar system; the sun, and Kevin Galka showed us the beautiful light he collected from very distant galaxies.

We would also like to congratulate all the prize winners - 3 people walked away with pretty sweet telescopes and a number of other prizes were given away such as books and astro-accessories. All Star Telescope donated 2 sets of binoculars and we would like to give them a shout out as well for their generosity! They have a ton of cool astronomy merchandise and you can visit their website here: https://www.all-startelescope.com/

Spruce Woods (Kitche Manitou) is a special place where amateur astronomers of all levels meet to observe the night sky together, we trade stories, share techniques and targets, no matter your level of knowledge, this event enhances the whole observational experience, and we hope to meet more of you at SWSP 2022.

And finally a GREAT BIG THANK YOU to all the volunteers and donors that helped make this event a success!

Sam Giesbrecht (registration), Astro-Diablo 😈 (light control), Bryan Stach (general help & photography), Gail Wise (nightly hot water & toques), Michelle Paquette (Scope Tour), Dennis Lyons (swap table), Cliff Levi (SWSP Treasurer) Stan Runge & Lorraine Campbell (transport of propane & water), Margaret Childs (treats), Kamala K Nanjundeshaiah (samosas), Paul and Brenda Paradis (help setting up), Darren Hennig (astro accessory donations), Roger Todd (astronomy-stamp collections donation), Al Macklem (book donation), Daemon Nightshade (power supply for night presentation), Gord Tulloch (million website updates), Steve Altstadt (donations), Mike Stephens (donations), Gerry Smerchanski (too many things to list!).

See you September 2-5, 2022!

Image of the Star Party venue Saturday Morning (M. Tulloch)

Tipis and Telescopes Outreach Report

By Silvia Graca, RASC Winnipeg Centre, October 6, 2021

Ceremonial Grounds North-East of Selkirk

Members of the RASC took part in this year's "Tipis & Telescopes" event hosted by Cree Astronomer; Wilfred Buck. This event brings people together to explore indigenous star knowledge, share star stories and observe the night sky.

The RASC had solar scopes during the day attracting lots of observers and the sun did not disappoint with a large prominence which coincidently was the shape of a large tipi with a nice tree beside it. At night fall volunteers set up an array of different telescopes and entertained a very enthusiastic and curious crowd.

Drums and songs could be heard emanating out from around the sweat lodge and gathering circles.

Rob Cardinal from the "First Light Initiative", astrophysicist and discoverer of 2 comets told sky stories and the unique interactions of indigenous astronomers and his own experience getting to where he is now, teaching Aboriginal youth of all ages and making sure they are exposed to telescopes, astronomy, and the wonders of the sky.

Wilfred Buck deserves thanks and praise for all that he contributes and for sharing this awesome event with us!

Thank you to our RASC volunteers; Michelle Paquette, Ron Berard, Davidian Chorley, Sean Cesar, Ed Rajfur, and Gerry Smerchansky.

[Note: A second night was planned by cancelled due to cloudy weather. More images in the Internal Members-Only Image Galleries section of the website – Ed.]

RASC Certificate Programs Overview

By Mike Stephens, Councillor, RASC Winnipeg Centre

One of the many benefits the RASC offers is the opportunity to enhance your astronomical experience through the Observing and Astroimaging Certificate programs. Here is a brief overview of the various programs available, links to the program details on the RASC National Website, as well as a list of individuals who have received a certificate while a member of the Winnipeg Centre.

Explore The Universe

This program is for the beginning observer, and includes all major astronomical object groups, including constellations, bright stars, the Moon, the Solar System, deep sky objects, and double stars. Optional observations of variable stars, eclipses, aurorae, and other interesting astronomical items are also listed. This program can be completed with the unaided eye and binoculars. Usage of a telescope is permitted if all GoTo functionality is turned off. The Explore the Universe certificate and pin is the only RASC observing program available to members and non-members. See https://rasc.ca/explore-universe

Explore The Moon

This introductory lunar observing program is available in two varieties. The first is a binocular program that consists of 40 features, including craters, seas, mountains, and a scarp. Members who complete this program will receive an observing certificate. The second is a telescopic program that consists of 94 features including craters, mountains, seas, scarps, and valleys. Nine optional lunar mission landing sites (hard and soft) are also listed. Members who complete this program will receive an observing certificate and pin. See https://rasc.ca/observing/explore-the-moon-observing-certificate

Messier Catalogue

Charles Messier's famous list of 110 "not comets," includes the Andromeda Galaxy, the Orion Nebula, the Ring Nebula, the Wild Duck Cluster, and the Hercules Great Cluster. A telescope of at least 100mm aperture is suggested for this program. Members who complete this program will receive a certificate and pin. Members using the star hopping method for their observations will receive a Traditional certificate, while members using the GoTo functionality of a telescope will receive a Computer-aided certificate. See https://www.rasc.ca/messier-objects

Finest NGC Objects

Created by Alan Dyer, the Finest NGC Program lists 110 deep-sky objects, mostly from the New General Catalogue (NGC), as well as one object from the Index Catalogue (IC). Targets include the Double Cluster, NGC 4565, the Veil Nebula, and the Ghost of Jupiter, and there is no overlap with the Messier Catalogue. A telescope of at least 200mm aperture is suggested for this program. Members will receive a certificate and pin upon completion of this program. The Traditional and Computer-aided distinction applies for this certificate. See https://www.rasc.ca/finest-ngc-objects

RASC Certificate Programs Overview (cont.)

Isabel Williamson Lunar Observing Program

This intermediate-level program has a wide range of lunar surface features for you to examine. The observing manual lists both required and challenge (optional) observations. A telescope of at least 80mm aperture is suggested for completing the main observing list, while at least 150mm aperture is suggested for several of the challenges. A certificate and pin are awarded to members who complete all the required observations. The RASC Observing Committee will also send letters of recognition to members who also complete at least 100 Challenge objectives or observe 1,000 individually named lunar features. See https://www.rasc.ca/isabel-williamson-lunar-observing-program

Double Stars

Introduced in Fall 2020, this program consists of observing a total of 110 double and multiple stars. The observer will discover a range of double stars, from different colours and different magnitudes to similar colours and similar magnitudes, and close to wide separations. Estimation of position angle, separation, and magnitudes is encouraged, but not required. A telescope of at least 90mm aperture is suggested. Members will receive a certificate upon completion of this program. The Traditional and Computer-aided distinction applies for this certificate. See https://rasc.ca/double-stars

Deep Sky Gems

Created by David Levy, this advanced program consists of 154 objects that do not appear on any other RASC observing program. Objects are wide ranging and include nebulae, an asterism, galaxy clusters, and a quasar. Much of the list can be seen with a 200mm telescope, however, it is suggested a 400mm telescope be used to see the quasar properly. Members who complete this program will receive a certificate. There is no Traditional/Computer-aided distinction for this certificate. See https://www.rasc.ca/observing/deep-sky-gems

Deep Sky Challenge

Created by Alan Dyer and Alistair Ling, this list of 45 “fringe” objects will challenge the experienced observer. A wide range of telescopes, from wide field to 500mm aperture, is suggested to complete this list. There are no overlaps with any other RASC Observing programs. Members who complete this program will receive a certificate. There is no Traditional/Computer-aided distinction for this certificate. See https://www.rasc.ca/observing/deep-sky-challenge-observing-program

Astroimaging – Wide Field

This program serves as an introduction to astronomical imaging, with an emphasis on skyscape images. Skyscapes are considered wide field pictures that include not only the astronomical object, but also the landscape in frame. A total of 15 images are needed to complete this program, and at least 10 must be in the skyscape category. A list of suggested objects is found on the program website. Members who complete this program receive a certificate. See https://www.rasc.ca/astro-imaging-certificate

RASC Certificate Programs Overview (cont.)

Astroimaging – Solar System

This is a program for astronomers to learn basic techniques of photographing Solar System objects, including tracking, focusing, stacking, and processing. Both snapshot and stacked images are required, with stacked images coming from video. A total of 8 objects are needed to complete this program, and they are listed on the program website. Members who complete this program receive a certificate. See https://www.rasc.ca/astro-imaging-certificate

Astroimaging – Deep Sky

This is a program for astronomers to learn basic techniques of photographing deep-sky objects, including tracking, focusing, stacking, and processing. A total of 12 images, with 2 images from each of 6 categories, are required to complete this program. Members who complete this program receive a certificate. Please be aware that images from remote telescopes will not be eligible for consideration. See https://www.rasc.ca/astro-imaging-certificate

Herschel 400

While not an official RASC Observing program, the Herschel 400 presents an advanced challenge for observers. The list consists of 231 galaxies, 133 clusters, 35 nebulae, and 1 asterism. A telescope of at least 150mm aperture is recommended. Any RASC member who completes this program, and whose membership is in good standing, can receive the certificate and pin without being a member of the Astronomical League. As of October 2021, 16 RASC members have been awarded this certificate and pin. See https://www.astroleague.org/al/obsclubs/herschel/hers400.html

RASC Winnipeg Centre Certificate Recipients

New recipients in **bold**. Congrats Margaret!

Explore the Universe

Gail Wise, Mike Stephens, Janet Pollock, Janice Low, F. Lindsay Price, Ralph Croning, Terra Jentsch, Corey LeBerge, Corrine Robinson, Kevin Dromereski, Robin Clarke

Explore the Moon - Telescopic

Corrine Robinson, Kevin Dromereski, **Margaret Childs**

Messier Catalogue

Grant Gussie, Kevin Black, Richard Turenne, John Smith, Alan Sherlock, Timothy Zacharias, Gail Wise, Raymond Andrejowich, Stan Runge, Bernie Plett, Michael Karakas, Sean Ceaser, Gilbert Raineault

Finest NGC

Kevin Black, Gail Wise, Stan Runge, Mike Stephens, Gilbert Raineault, Sean Ceaser

Isabel Williamson Lunar

Mike Stephens

Herschel 400

Gilbert Raineault, Mike Stephens

Astroimaging - Deep Sky

Sheila Wiwchar

Astroimaging - Wide Field

Sheila Wiwchar

Spruce Woods Night Hike

By Trevor Bryant & Gerry Smerchanski, RASC Winnipeg Centre

On Oct. 16 2021 out at Spruce Woods there was a Night Hike in the Sprit Sands. The volunteers from RASC and Brandon and Area Astronomical Society (BAAS) were Gerry Smerchanski, Silvia Graca, Alan Macklem, Abdul al Manni, and Trevor Bryant (BAAS).

Parks staff in attendance were Jen (Spruce Woods), Lindsay (Birds Hill) and Alex (Birds Hill). There were 40 visitors who signed up through Eventbright.

We met at the Visitors Centre before heading to the Sprit Sands and set up telescopes in the wagon ride area. Everyone was split into 2 groups to allow for better social distancing.

The hike consisted of two groups of 20 each traveling in opposite directions around one of the trails in the Spirit Sands. The waxing gibbous moon provided more than enough light and the skies were very clear and transparent. The trails through the Spirit Sands provides some very appropriate vistas that highlight various aspects of the sky as well as the terrain. Along the trail, stops were made to point out various astronomical features such as the planets along the ecliptic or showing the circumpolar constellations. The moon was the dominant feature of the night sky, its behaviour and its origin was the subject of another stop.

Much was made of the issue of light pollution and the impact on such environments such as parks and preservation of natural environments. The attendees from other parks shows there is interest by other parks and jurisdictions in duplicating the success of this popular event.

When everyone returned from the hike there was hot chocolate and apple cider for those who wanted some. And viewing of the Moon and Jupiter through the scopes!

Observing Report – Birds Hill Sept. 14

By Darren Hennig, Robin Clarke, James Fast, RASC Winnipeg

Darren: Robin Clarke, James Fast, one of our newer members this past year, and myself all went out to have some fun under the "clearer" skies that were predicted for this evening… (Sept 14).

We all met around 20:15, about 1/2h after local sunset. Skies had some light scattered cloud, the moon at nearly 60% illuminated was out. Venus was just over the tree tops, poking between clouds to the south over Winnipeg.

We all set up – I brought the Skywatcher 120mm f/5, and wanted to try my new TS 30mm Paracorr EP (69 degree AFOV). Mounted on my SV M2C alt-az head with Argo Navis comouter system. Also, at the ready were my Canon 18x50IS binos, but didn't use them tonight, nonetheless had them in case 🙂

James brought his 6" f/5 Skywatcher Dob and his Orion 80ED with his new 2" Orion erecting prism Diagonal he got off me.

Robin had his Oberwerk 25x100IF binoculars on his newly fabricated parallelogram mount, and his C8 as well. His new Bino mount worked superbly tonight – very stable, and highly portable! Well done on that version 2 unit!

Skies got decent until just after 21:45, when some cloud blew through for nearly an hour. Some sucker holes were about, but mostly a waiting game, until just after 23:00. Then things slowly got clearer. SQM read at best during the near-midnight skies at 20.43 with the moon setting… that is a NELM of ~5.8 at zenith. Not the best BHP usually has to offer, but given this summer's crazy skies and smoky haze – we'll take it! It was good enough to make out M31 naked eye, 7 Pleiades The NAm Nebula, swaths of the milky way showing well with hints of rift structure, but not too much tonight.

Best noted views: James 80ED with his diagonal and APM 13mm UWA was AMAZING! Double cluster was superb, as was M27 and M57. M27 had significant structure in it with some core showing (his 13mm gives mid-40s power, at 2.1 degrees. Really nice, and BIG contrast!

Other bests tonight for me was Jupiter in Robin's 8SE! He recently got a Baader 2" mirror diagonal and clicklock to fit on his visual back threads, and a 36mm Baader Hyperion ASPH EP. WOW! The double cluster was superb at ~56x in the scope with a 1.3 degree FOV. You could just squeeze the two cores into the view, and it went DEEP! The other biggey was Jupiter in the 8SE with James' 8-24mm Baader Zoom Mark IV… Jupiter was crazy! Seeing was like 8-9/10 at times (4.5/5) and easily 6-7 belts could be made out. GRS was leaving the limb, but it was THE best views through the 8SE I have seen – EVER! We went to 240x, but things started to soften tonight – so not perfect seeing, but even at 170-200x there was major structure on the planet! VERY nice indeed.

I have to say, with the 2" Baader and 36mm ASPH, you could have a lot of fun with just those two in the scope! Fun times are ahead for Robin with that combination! He bagged I think 5 extra Messiers tonight, as the cloudy interlude snubbed efforts a bit. But we had a LOT of fun! Just 3 guys and a sky…

Observing Report – Birds Hill Sept. 14 (cont.)

My 30mm EP did a dandy job with the 120… I didn't do too much tonight, other than the DC, and banged off some nice carbon stars tonight, plus M27 (really good in the 120, even at 20x), and Just general evaluations – finally – could get done. Fun to use this wide field scope… I did bring my Leica Zoom and Baader M3 zoom also, but when cloud hit, I left them in the case. My plan was to bang off some dark nebulae, and Neptune at low power and then some asteroids, but that went south with the clouds.

Dew was no issue, though at 00:55, when we started to pack, some light condensation was starting to show up. Very comfortable evening temperature-wise for this time of year.

Skies got of course much better as we were leaving, being a work day for two of us… figures, but that is okay! We all had a lot of fun!

Other than the cloudy interruption, and some bozos running around with high beams on the field east of us for awhile, at the lot location off east gate road, we had good times.

Big thanks to the lads for accompanying me. We are all in for some MEGA-fun in the coming months!

One final note: those 8" SCT users reading this should consider if doing visual with theirs – they MAY wish to get a premium diagonal like what Robin did – it transforms the scope into a serious sky machine! Couple that with a really good wide field EP giving over 1.2 degrees, and you have an amazing adventure ahead! Just saying. 8SE… The "SE" might just mean SEnd me to the moon! (lol)

Robin: It was great to finally try out some new equipment. I really was impressed by the Baader investment. When looking at the double cluster the stars seemed to be brighter and the wider fov made for a spectacular view! It was great to get out looking up!

Darren: BTW, I think I have to agree re: brightness. You 8SE was just SO bright on Jupiter unfiltered – 85x was of course almost blinding! lol – but even at 150-165x was very bright. That scope now really grabs the photons for sure! And, I also second that the DC (double cluster) was very bright as well. I loved the dual cores just fitting into the FOV the way they did. Just an explosion of stars!

With that new EP and diagonal, this is like a whole new scope now! VERY impressive results, sir!

It was great being out under mostly decent skies with you both. Just too bad we had 1/3 of it sort of interrupted. But at least we got some good stuff.

From the Forums: https://winnipeg.rasc.ca/rasc-winnipeg-forums/general-forum/tuesday-night-sites-bhp-w-robin-and-james/#p3438

Dr. Tapping's Corner: A Big Triangle in the Sahara

By Ken Tapping, NRC-CNRC, 31st August, 2021

In the 19th Century there was a proposal to let Martians know there was intelligent life on Earth. At the time it was widely accepted Mars was inhabited and some of that life had to be intelligent. Our telescopes showed polar caps, which melted in spring, launching a wave of darkening of the desert that diffused down towards the equator. This was interpreted as vegetation growing as meltwater reached it. Then of course there were the canals, mapped by Lowell, which were suggested to be massive engineering projects by technically advanced Martians to manage the declining resources of a dying world. Those canals were later proved to be due to a combination of poor observing conditions and wishful thinking.

The plan was to dig a trench in the Sahara Desert, marking out a huge right-angled triangle. The trench would then be filled with kerosene and ignited. It was hoped that the Martians would see this through their telescopes and interpret that fiery triangle as an indication of intelligent life. After all, huge right-angled triangles rarely if ever turn up naturally. The underlying idea about the triangle was probably sound, because even alien creatures, living under very different conditions, are likely to have geometry in common.

Our ship is entering the planetary system of another star. Is there life on any of the planets? Is any of it what we would call "intelligent"? How about searching for radio signals? Anyone coming into the Solar System would detect the radio signals radiating out from Earth. However, if we detect none, this is not the end of our search. On our world the use of high-power transmitters for broadcasting is gradually being replaced by low-power networks, fibre links and so on, and using methods of encoding the signals produce signals that just happen to resemble the naturally-occurring emissions produced by cosmic objects.

Maybe squirting radio signals in all directions is just one phase in the evolution of an intelligent species. Eventually it moves towards more efficient systems. In addition, intelligent creatures living in a conductive fluid like water would not have much use for radio.

As we get closer, we can examine the individual planets. Do any of them have atmospheres? Once again we cannot assume an atmosphere is a necessary ingredient in the recipe for life, but here on Earth it plays a critical role in protecting us from harmful cosmic radiation and is a prime mover of water vapour and other things around the planet. All the known planets in the Solar System except Mercury have atmospheres of some kind. These do not automatically indicate life, but they provide a means of searching for it. If we look at our planet's atmosphere from somewhere out in space, we will notice about a fifth of the atmosphere is oxygen. This is a tremendously reactive gas and will combine with minerals to form oxides, and if any hydrogen, methane or other hydrocarbons are present, or maybe ammonia, as we see in Jupiter's atmosphere, oxygen would combine with them making water and carbon dioxide. Oxygen is present in our atmosphere because it is being continuously topped up by plant life. Another highly reactive gas is chlorine.

This is a poison to us but could fill the role of oxygen. However, oxygen is a common element, so it is probably the most likely candidate. As we get closer to the worlds we have chosen for closer examination, assuming we have not spotted activity, and are not being shot at, we can look for lines, grids, circles on the ground. These indicate cities and infrastructure. We might see structures like the Great Wall of China, maybe even an occasional huge, right-angled triangle.

Ken Tapping is an astronomer with the National Research Council's Dominion Radio Astrophysical Observatory, Penticton, BC, V2A 6J9.

Explorations in EAA Pt. 3 – Target Selection

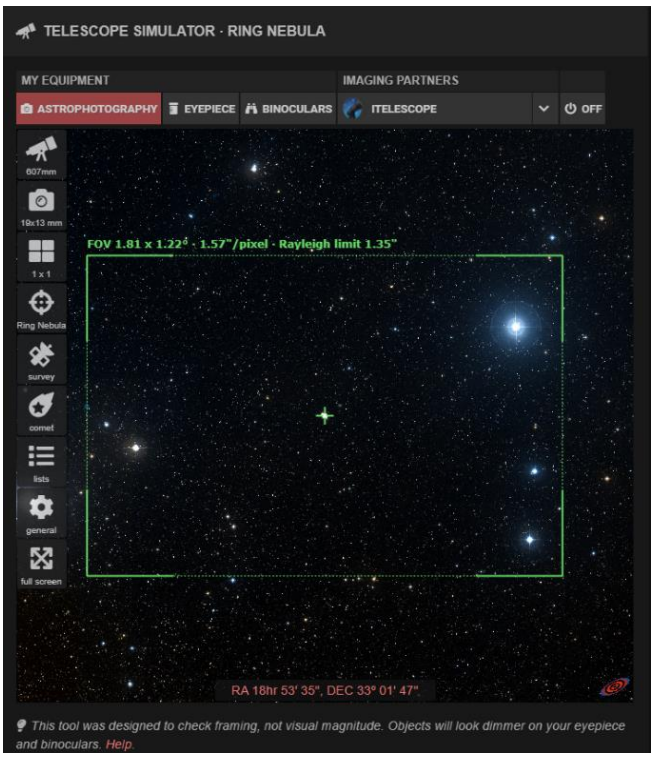
By Gord Tulloch, RASC Winnipeg

Since the last newsletter Summer has come and gone with blistering hot temps and forest fire smoke aplenty, accompanied of course by the Solstice and not a lot of darkness to work with (especially for yours truly who is still numbered in the ranks of "working stiffs") but one thing that did arrive was my ASI294MC camera, offering much wider fields of view with my main telescopes, a Celestron C8 (1280/2032mm fl) and my Explore Scientific ES102mm (607mm fl.)

Planning Observations

Obviously when confronted with two possible platforms it makes sense to do some planning on the optimal objects to view with each telescope/camera combination. My testing proceeded with the telescopes indicated above, and the two ZWO Cameras.

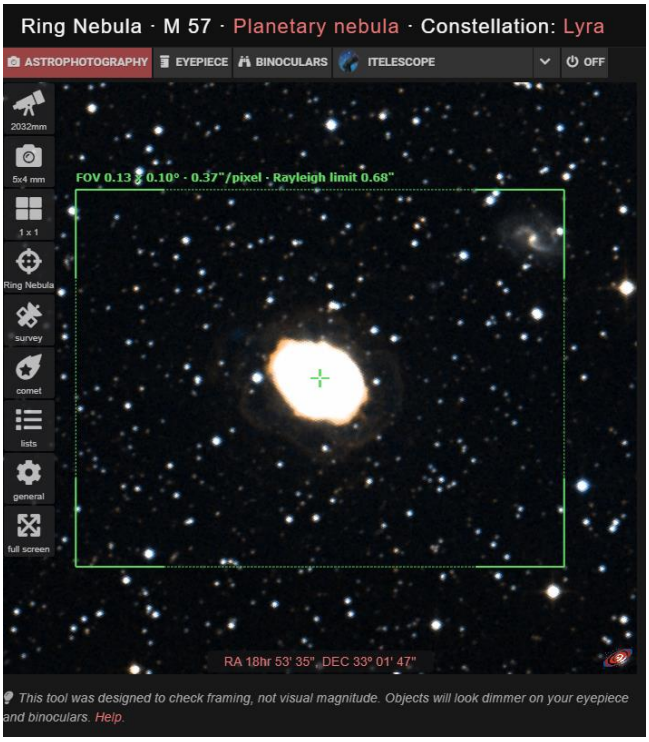
The ASI224MC (henceforth called the 224) is a one-shot color (OSC) camera with an uncooled 12-bit IMX224 1/3" (4.9mm x 3.7mm) sensor and a resolution of 1304x976. Pixel size is 3.75um. This camera is optimized for planetary imaging at 150fps but is also quite usable for longer exposures with a low 0.8e read noise. The ASI294MC (294) is a one-shot color (OSC) camera with a much larger uncooled 14-bit IMX294 4/3" (19.1mm x 13.0mm) sensor and a resolution of 4144x2922. Pixel size is 4.63um. This camera is not optimized for planetary imaging at only around 19fps, so it's primary use is longer exposures – it has a slightly higher but still low 1.2e read noise.



The best tools I've found for planning imaging sessions is a combination of KStars to get target lists using its built-in wizard, and the Telescopius.com web site. With Telescopius.com you can create an account and enter your telescope, sensor, eyepiece etc. particulars, and it will show you field of view information for any object you care to pull up.

To give an extreme example if you decided to observe the Ring nebula on the ES102 with the 294, the field would look as in the figure at right. Obviously, the Ring would be tiny and in fact is obscured by the crosshairs in the middle of the screen. This image is why everyone needs more than one telescope in their arsenal, otherwise you have a lot of cropping to do on your images! The C8/ES102 combo gives me short/medium/long focal lengths so good to go.

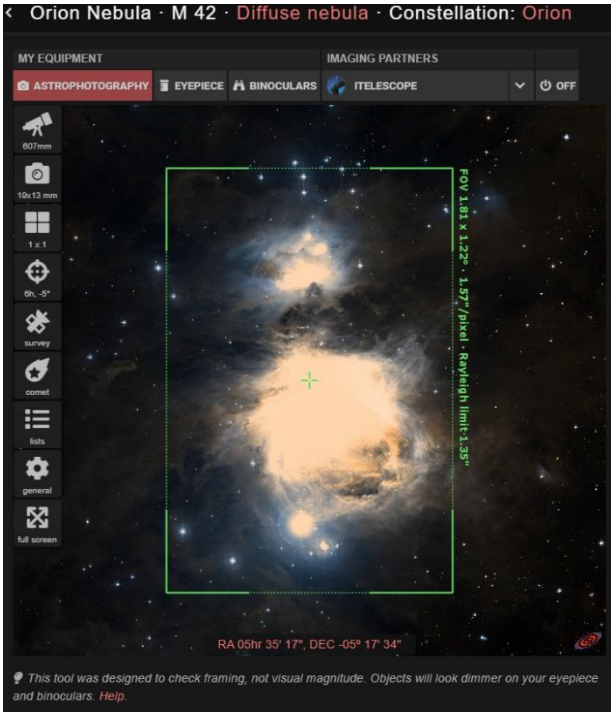
Explorations in EAA Pt. 3 – Target Selection (cont.)



With the C8 and 224 the (very overexposed in the sample image) Ring would look like the image at left with a field of view of 0.13° x 0.10° or 0.37" per pixel. This is a nice image scale if horribly over-sampled, but even with guiding it's tough to get good images with such a narrow field, and seeing impacts are large. Even with a 0.63x focal reducer (FR) giving 0.59 arc-sec/pixel, the C8 and 224 combination will probably stay in the toolbox for planets and not get any use for EAA.

The 294 on the C8 with a FR gives only 0.75 arc-sec per pixel (a 0.85° x 0.58° field) but we reap the benefit that over-sampling does reduce signal to noise ratio so going a bit over the "rule of thumb" common wisdom seems a good trade off to get nice image scale on small objects. We could use 2x2 binning to reduce sampling but on ZWO OSC cameras binning results in monochrome images – essentially binning causes the camera to ignore the Bayer matrix that creates color images, resulting in a greyscale image, which defeats the purpose of a color camera!

With a field of view of 1.81° x 1.22° or 1.57" per pixel the ES102 and 294 excel at much more extended objects, such as M42 below. Since we want to keep sampling between 1 and 2 arc-sec/pixel this is a very good camera/telescope pairing. The 224 on the ES102 gives us 1.25 arc-sec/pixel (0.45° x 0.33°) on the ES102 which is similarly within a good range.



Why use the C8 at all when the ES102/224 pairing gives similar results? Resolution! The resolution of a telescope is R=4.56/D, R in arc-secs, D in inches. So the 8" scope gives us double the resolution of the 4" ES102 and over-sampled to boot, so the C8FR/294 pairing is more optimal than ES102/224.

I own an old SAC 0.5x FR but that would result in 3.15 arc-sec per pixel so the resulting images would be under-sampled which means fine detail in the image is lost within a single pixel. While under-sampling can be compensated for in traditional image processing (using, for example, drizzling) it's much better to err on the side of over-sampling than under-sampling in EAA, otherwise you're leaving resolution on the table

Explorations in EAA Pt. 3 – Target Selection

you could otherwise be taking advantage of. It's all based on optimal seeing anyway so at the end of the day, just rules of thumb!

So we have in our tool chest the C8 and 294 with and without a Focal Reducer, and the ES102 with the 294 for wider field objects. In planning for my observing sessions starting on July 10 and selecting brighter objects since it's still close to the Solstice with very little real darkness, playing with Telescopius arrived at the following lists of objects for trials for three combinations of camera and telescope:

C8/294 (small objects)

M57 PN Ring Nebula in Lyr
M27 PN Dumbell Nebula in Vul
M76 Little Dumbbell Nebula in Per
M51 Sc Whirlpool Galaxy in UMa

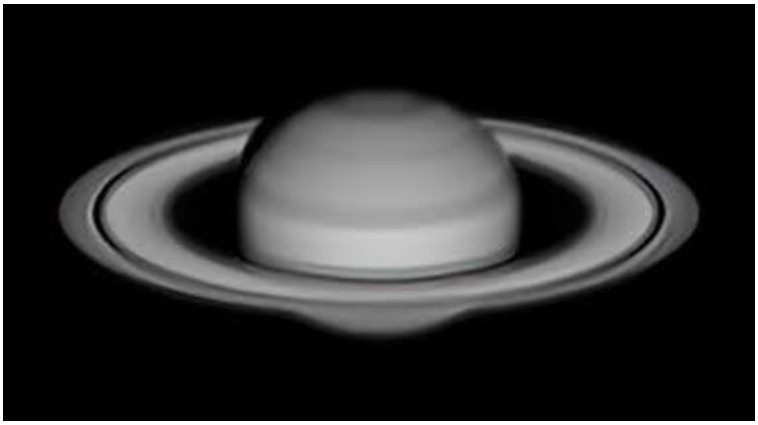
C8/294/FR (moderate objects)

M13 GC Great Globular Cluster in Her
M92 GC Globular Cluster in Her
M101 Sc Pinwheel Galaxy in UMa

ES102/294 (extended objects)

NGC 281 Pacman Nebula in Cas
NGC7000 DN North American Nebula in Cyg
M33 Sc Triangulum Galaxy in Tri
NGC6992 Supernova Remnant in Cyg

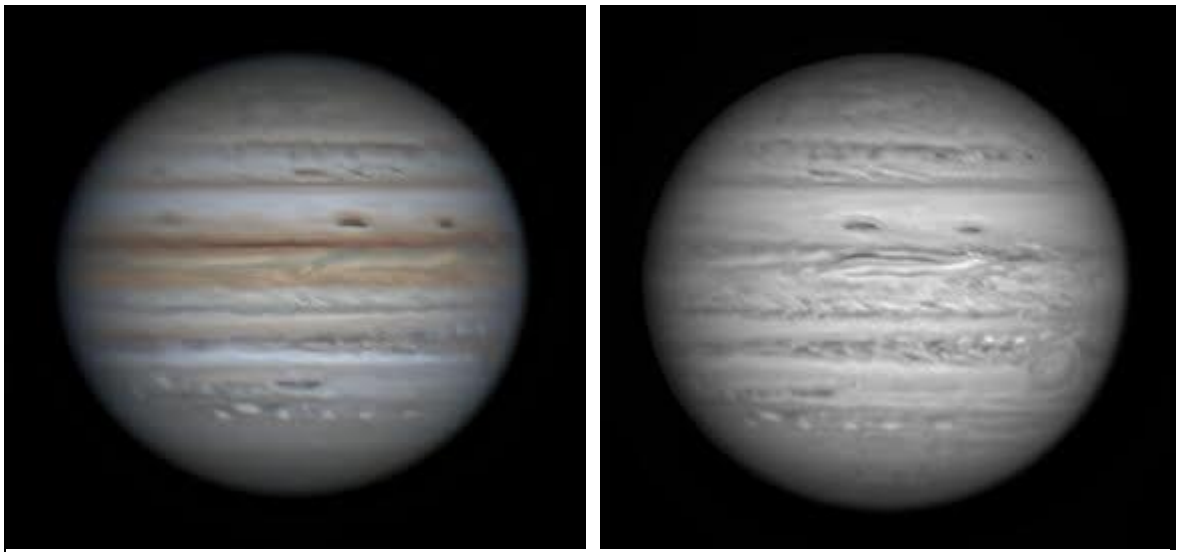
Unfortunately my summer observing program was upset by the pervasive blazing temperatures and the smoke from forest fires. So, hopefully fall weather and a mild winter will bring both some time to observe as well as mitigation of the heat and the smoke. More next time!



Mike Karakas - Saturn image taken on Aug 30th,
taken with a ZWO 174mm with 642nm IR filter at F33.

Members Image Gallery

Sheila Wiwchar – An image from the excellent October 11 auroral display



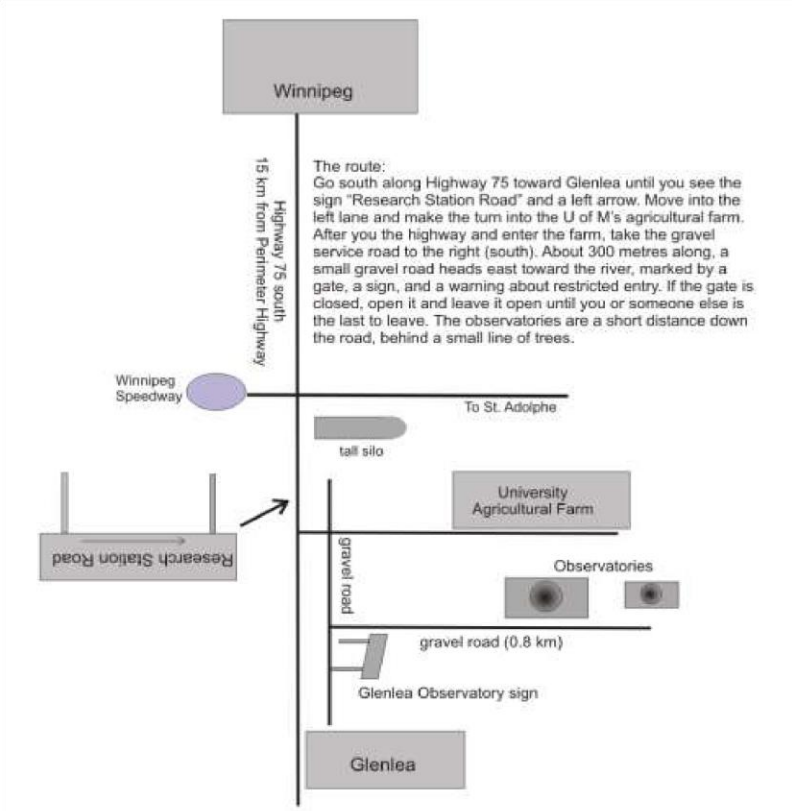
Mike Karakas - Jupiter images taken on Sept 15th. Colour image with ZWO 224mc at 24, Monochrome is with a ZWO174mm with 642nm IR filter at F33

Members Image Gallery

Ian Dixon - NGC 722 - Here is my first Arp irregular galaxy image, taken at Sandilands on October 3. Wiki says : "Halton Arp includes NGC 772 in his Atlas of Peculiar Galaxies as Arp 78, where it is described as a "Spiral galaxy with a small high-surface brightness companion"." This (relatively) big galaxy is being tugged upon by its neighbours, leading to some irregularities in its outer arms. This image was taken with my C8 and my ZWO 2600 mc camera. About 2.5 hours of integration time, processed in Pixinsight, stacked in APP

Richard Conrad – Double Cluster in Perseus via iTelescope in New Mexico

Glenlea Observatory Information



The Winnipeg Centre maintains a working observatory, pad, and warm room at the University of Manitoba's Research Farm. The observatory contains a 30 cm Meade LX200 telescope on a fork mounting. Members of the Centre may sign up to use this telescope by emailing: observatory@winnipeg.rasc.ca

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 also 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 concrete pad in front of the warm room and observatory provides a convenient space to place members' telescopes while conducting personal observing programs. A computer is available as well.

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.

Remember to turn off all lights, make sure doors are locked, and close the gate if you are the last one to leave!