Newsletter of the Royal Astronomical Society of Canada Winnipeg Centre May/June 2021

Winnicentrics

The Royal Astronomical Society of Canada - Winnipeg Centre

Upcoming Events

RASC Winnipeg Centre Monthly Meetings (via Zoom)

May 14, 2021
June 11, 2021

Members' Observing Nights

TBA

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 7:00 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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Terra Jentsch
Andrew McCaskill

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SWSP Organizer: Silvia Graca

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Winnicentrics Editor:
Gord Tulloch

Observatory Director:
Bryan Stach

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

Notices:

The Glenlea Observatory LX200 / Dome is CLOSED. Please contact Bryan Stach at bstach@mymts.net or phone 204-295-8506 for current info.

Glenlea Warm Room is CLOSED. The Pad is OPEN but limited to 10 people and social distancing.

Members Observing Nights are CANCELLED due to COVID restrictions.

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

President's Corner

By Dennis Lyons, RASC Winnipeg Centre President

Welcome everyone,

Just a quick update on what your Council has been up to since the last newsletter. The Strategic Planning Process is well underway - thank you to everyone who has participated to date. The goal is for the council to get a good understanding of what The RASC Winnipeg Centre membership feel is important. So far there is a clear indication that the members want more programming and when possible, group events.

The other area of focus is the Mentors program with an emphasis on the different levels of experience in the Centre and areas of interest. If you want to help and be part of this, please let me know by email to president@rasc.winnipeg.ca

As you are aware the Council has approved the use of the pads at Glenlea for up to 10 people at a time. The dome and warm room are still closed as there is no effective way to ensure it is cleaned and decontaminated after each use.

The next major area the Council is working on are the bylaws. This is moving along nicely and will need to be completed before we can incorporate as a Not for Profit. The plan is to present them to the membership shortly for review and comment. Then they will be formally announced and voted on at a special meeting at one of our regular meetings.

The Council has appointed Judy Anderson as the interim Education Coordinator whose role is to coordinate the Beginners Sessions, Pairing up Mentors with Mentees and Outreach programs when we are allowed to again.

Your Council Member Andrew McCaskill is extremely interested in getting youth more involved in the Centre. Would you like to see that too? Then please contact him to see how you can help. Councillor Terra Jentsch has a passion for Light Abatement (reducing light pollution) in our communities.

In the last newsletter I mentioned the General Assembly in 2022. At the February Council meeting it was decided to not run the GA in 2022 but to add it to the Strategic Plan and find a better date. If you are interested in helping, let us know and you can be part of choosing the date.

In closing I would like to congratulate Sandy Shewchuk who has been chosen for The RASC Winnipeg Centre 2020 Service Award for his work on the Dark Sky Preserve at Spruce Woods and Sheila Wiwchar for the Achievement Award for her work in Astrophotography.

Things are going well, and we are hopeful to see some of you at Glenlea and the SWSP in September.

Clear Skies,
Dennis Lyons
president@rasc.winnipeg.ca

Editor's Message

By Gord Tulloch, RASC Winnipeg Centre

As our thoughts turn to delightful spring evenings that are pre-mosquito and still getting dark at a reasonable hour, hopefully everyone is also joining me in feeling hopeful that there is a ray of light at the end of the current pandemic tunnel and that we'll be able to resume relatively normal activities in the fall. Even if there are safety protocols to follow, getting out under the stars and sharing our love of the skies again will go a long way to resuming a sense of normalcy in our lives.

We are looking forward to two in-person events this fall, in the hopes that restrictions have eased to the degree that the events can occur as planned. First we have our Spruce Woods Star Party (SWSP) 2021, an annual star party out at the very dark Spruce Woods Provincial Park (Manitoba's first Dark Sky Preserve) and a few weeks later, participation in the Scouts Canada Wilderness Challenge camp. See article in this issue with information on the latter event, and a full rundown of the SWSP in July!

I know the Centre Council is constantly looking at what we can do to get back into our outreach activities when things return to normal, but you may not know that even while the pandemic was raging, various members were working hard to bring Astronomy to the public through digital talks to a large variety of audiences. Judy Anderson wanted to recognize and encourage these activities in an excellent article about outreach in this issue. I'm certain her list isn't exhaustive either!

In the upcoming system offered by the RASC National office will be facilities for better promotion of events as well as tracking of volunteers. See my article in this newsletter with more info!

Any questions or comments please contact me at newsletter@winnipeg.rasc.ca. Clear skies!

Don't miss our May 14 meeting where Dave Lane, former National President of RASC and Director of the Burke-Gaffney Observatory at Saint Mary's University in Halifax will be presenting "The Mini-Robotic Observatory (MRO) An inexpensive "doghouse" style fully robotic and LIVE web browser accessible observatory (that you or your club could build!)"

Youth Outreach at Wilderness Challenge - Call for Volunteers

By Gord Tulloch, RASC Winnipeg Centre

Every year in September the Scouts have a Fall camp named Wilderness Challenge at Camp Amisk, across the road from La Barriere Park on Waverly south of the Perimeter. Older Scouts arrive Friday evening to set up "towns" along the banks of the La Salle River, each presenting a Scouting challenge such as fire lighting, building structures, zip lines, and similar activities for younger Scouts to complete. At each town the Scouts collect "gold nuggets" for successful completion and carry on to the next town, 10 in all. This is a venerable event that's one of the true highlights of the Scouting year, echoed by a similar winter event in March, the Klondike Derby. This camp is attended by hundreds of Cubs (7-10), Scouts (11-14) and Venturers (15-17) as well as Girl Guides and Pathfinders (no idea but similar age groups I think) and represents an excellent opportunity for Winnipeg Centre to promote Astronomy to a younger audience.

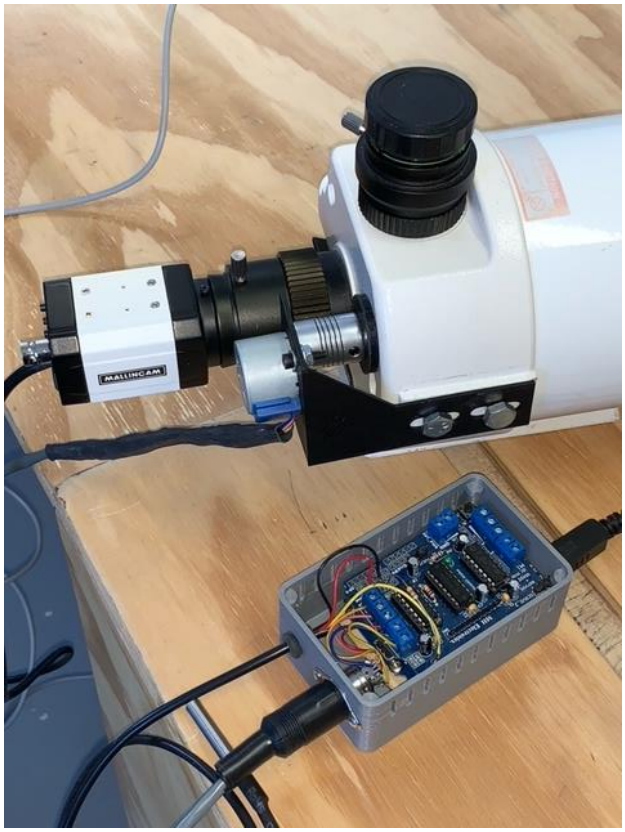
This year's event is on Sept 24-26 2021. The event is a Saturday "Cuboree" for the younger kids while the older Scouts and Pathfinders do their challenges, then the Scouts are free Sunday while the younger Cubs and Guides do their own challenges. The whole thing wraps up by 4:30 on Sunday.

Camp Amisk is a long, narrow band of camping areas on either side of a gravel road. We will likely be given a camp area on the road where anyone interested in tenting can set up, we can set up a shelter with cooking facilities for members who attend, and be able to set up for daytime solar observing as well as night time observing. The Centre would set up on Saturday afternoon and stay til late Saturday. Members could then camp on site or head home. The Scouts generally have a huge campfire after dark, then the whole group head back to their respective camps for a "mug up" of something warm and a tasty treat. The organizers would announce that we're set up in a camp on the way back from the campfire, and would steer them our way so we'd see a ton of kids all at once. The kids are supervised 6:1 by Scouters so it wouldn't be a total free for all in the dark, but likely we should employ some strings of red lights to provide some boundaries.

If you would like to volunteer for this event. send a note to newsletter@winnipeg.rasc.ca and we'll get in touch with more details. Obviously the whole thing is subject to cancellation due to COVID but we're keeping our fingers crossed!

The Wilderness Challenge Crest. Scouts go mad for Crests to add to their campfire blankets! Perhaps the Centre could get some made that commemorates the event for Scouts and Volunteers? Ideas welcome!

From the Winnipeg Centre Workshops



Don McDonald says "So with my aversion to cold weather and need to be in bed by 9pm (yes that is when old people fall asleep) winter astronomy has not been a possibility. But with darkness starting at 4:30 pm and long evenings of potential observing in winter the only solution is a remote scope. It sits out on the deck at -30 and I sit in the house watching a large screen sipping Scotch beside a crackling fire.

So I thought I would make a modest start with my small scope and if it turned out well invest in a more capable scope and mount setup. I found a Celestron fork mount cheap from someone who had gone to an equatorial mount and bought a little Malincam Mini.

But the big problem was the focuser. Motorized focusers are stupid expensive. It's just a stepper motor and driver, how hard could it be?

Plenty hard as it turns out. I found an Arduino based focuser project on SourceForge and with absolutely no previous electronics experience the learning curve was almost vertical.

But patience and perseverance paid off and here it is. Works very well. Now I need some nice weather to calibrate the mount and we shall see if it all works. It's been an adventure so far."

https://sourceforge.net/projects/arduinofocuscontrollerpro/

~~~ oOo ~~~

Winnipeg Centre member Marie Tulloch (in full Scouter regalia as a member of the 1st Southdale Cub Scout Pack) enjoys some solar observing at Wilderness Challenge 2019. Come join the fun in 2021!

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Looking Up with Others – An Article on Outreach Activities by RASC-Winnipeg Members

By Judy Anderson, RASC Winnipeg Centre

Bryan Stach - An Observing Event in Riding Mountain National Park in 2018

Recently, someone I know at home, my husband Jay, was planning a talk to 'one of the nature organizations'. He worked on it for a week or so, on and off, while he selected the photos and the format for his PowerPoint Slides. Finally, one evening, as I watched over his shoulder while he clicked through the slides, when I saw it was about eclipse experiences we'd shared together, I asked the name of the group that had invited him to talk. It was the Parks After Dark program by Manitoba Parks. "Oh, the Parks presentations!" was my thought, remembering that Gerry and Silvia as well as Gord had given talks already.

If you'll remember, Silvia Graca has championed and coordinated this neat connection, through years of working with them on the Spruce Woods Public Event and recruiting volunteers to help sky viewing by bringing telescopes. She has led the coordination of the Spruce Woods Star Party for many years, through responses to flooding and rebuilding, alternative events (during cloudy weather, and out and out, rain), and also worked on the Dark Sky Preserve project that Tim Kennedy and others did so well. Spruce Woods Provincial Park is now proudly established, as of last year, as one of our country's too-few dark-sky preserves.

Looking Up with Others (cont.)

I started to think about all the presentations, help, workshops, tips that members of the club had and were giving in our various communities: even amongst those people that I know directly, it really adds up! To find out a bit more, I did an email poll of 12 people I know directly, and assembled their recollections. From some great responses (thank you!), I selected only distinctly "outreach" activities and did not include "in-reach" activities for/with RASC members at meetings, the observatory, or other venues, such as the Spruce Woods Star Party.

- Sheila Wiwchar gave numerous talks on what to see and how to image the night sky in the past year. She spoke at Oak Hammock Marsh, and by zoom to the Manitoba Camera Club and the Winnipeg South photo club. In each presentation, she mentions the Winnipeg RASC activities and events in the sky, and uses her wide-field and deep sky, solar and planetary, images to illustrate how she's captured astronomical events and beauty in the sky and landscape, often teaching a lot about operating the camera, and fortitude while imaging in cold weather.
- Jay Anderson presented a talk on eclipses to the Manitoba Naturalists. He also spoke in the Manitoba Parks Parks After Dark program, and gave talks to the Nanaimo Astronomy Club, and to the Victoria Centre of the RASC. He's also contributed with other members in the Astronomy Day events over the years, as well as to many public events about observing the sun, comets, and meteor showers.
- Gerry Smerchanski gave sky tours to 25 people on the roof (pandemic capacity) at Oak Hammock Marsh after OHM presentations on constellations (September) and how birds use the stars (October). Fortunately, both events had good skies.
- Silvia Graca presented at the Spruce Woods Public event on the star Polaris, known as the wolf star in Cree and Ojibway legends.
- Gerry and Silvia presented virtually on the Parks After Dark program on how to observe the Geminids Meteor shower, as well as on March 6, 2021 on Astrosketching for beginners.
- Dennis Lyons gave a webinar to the Nature Conservancy of Canada (NCC) on dark skies, and gave talks at the NCC Weston Family Tall Grass Interpretive Centre on Dark Skies.
- Gord Tulloch gave many talks to groups of Scouts (4) and Cubs (2) online, helping with their activities during the pandemic. He's bringing in others, including Terra Jentsch and Andrew McCaskill, to build the capacity of the club for this type of outreach, as demand is growing. Gord also presented to the Manitoba Parks program Parks After Dark and to Wild Canada.
- Mike Karakas spoke at numerous Astronomy Day outreach public sessions over the years, and at special events like the Mars public-viewing sessions, and organized and spoke at 2 public observing sessions in Whiteshell Provincial Park.

Looking Up with Others (cont.)

- Stan Runge's outreach included a few informal activities with a couple of families in the Teulon area: one family on July 18 and another on July 21 to view Comet Neowise. Kara, in the second family, received the club's Christmas giveaway. Aug 12 saw the first family return with their 4 kids for a meteor shower party and popcorn. Twelve-year-old Daniel drew the path of 35 meteors on a star chart, and has since received a telescope assembled from contributions by Gerry (the optical tube assembly) and Stan (the mounting). Daniel got his birthday wish, too: a private observing session in Stan's observatory. Stan taught him to run the 'scope and then Daniel showed his father the planets and the Moon.
- Darren Hennig was a guest speaker for Dr. Danielle Pahud's visual astronomy class last February at the University of Manitoba about Binocular Observing and star-hopping fundamentals.
- Bryan Stach contributed at Oak Hammock Marsh, the Whiteshell, Riding Mountain Park, the Mars event at Glenlea, a school event at Pinawa, and many Astronomy Day/Night events.

Many people have posted themselves for a full day, at Science Rendezvous at the University of Manitoba, to show the sun and talk astronomy with members of the public.

That is quite an impressive list, and only from 10 people – there are 230 members in the Winnipeg Centre of the RASC. While the list doesn't include outreach by everyone in previous or current RASC Councils or other members who are active observers, imagers and/or natural educators, the sample illustrates an important point: members do a LOT of outreach! And, it's important to remember that many, if not all of these people, also gave talks, lectures or updates at our regular meetings, beginner or mentor sessions, and observing or astrosketching sessions.

MANY more members share images through social media, forums outside the Centre, and with neighbours, family, friends, colleagues, and communities. Members chime in with information from their own experiences with observations and their own knowledge, as opportunities arise at social, workplace, and educational settings. We nearly all like to tell stories, as they convey information while entertaining and intriguing an audience. I just joined the club's Facebook group, so maybe me, too!

From my own experience in post-secondary education, I know that being able to demonstrate the impact of an initiative or activity, is very persuasive evidence of a role in the community, whatever community that may be. In an era of wanting evidence to support a request, I'd like to see our club begin a group log on our website somewhere, of all the club's outreach activities, perhaps entered by the scope of interactions (small, medium, and large groups) and their nature (talks or demonstration) and whether they were a series (like OHM or MB Parks) or a one-off with a particular event in the sky.

My guess is that nearly everyone in the club who saw Comet NEOWISE, later told at least one other person, about it. It sure stuck in my head -- even in my dreams; it was so lovely, hanging in the twilight! That way, someone else could enjoy the sight on a following evening or morning. Remember those days – it was warm and there was no snow, and we could actually be with other people during that lull in the pandemic.

Looking Up with Others (cont.)

There were also those beautiful noctilucent clouds (we pointed them out to people at Assiniboine Park), plus the many auroral displays, halos around the Sun or Moon, and conjunctions of Jupiter, Saturn, and Mars, or planets and the Moon. When we observe in a public place or roadside, there's almost always, someone who stops to inquire.

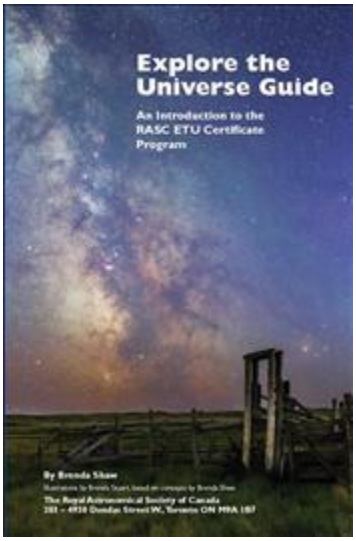
Only once in my own experience, did someone actually decline to look through the telescope, when invited to look – at the Transit of Venus, yet! We watched from Alice Springs, Australia in 2012. I assume he was completely disinterested, shy, or late on the way to work; usually it goes in the other direction (like the thousands of people who came to Kildonan Park to see Comet Hyakutake in 1996, or the hundreds who came to Assiniboine Park to see a lunar eclipse or the Transit of Venus, more recently). More than once that Transit morning, as the Sun and our thirst rose, school children, moms and tots, and men and women lined up to satisfy their curiosity, meet strangers, and watch the shadow of Venus cross the Sun.

Life is about looking up, after all! It's way more fun, when we know that others can learn and be inspired to be more curious, along with us, as we poke around the sky through binoculars or telescopes, or simply use our amazing visual system – hey, I could give a talk on that! So, when you're asked to explain something, or show someone the sky at the lake, or recommend when and where to watch the aurora or how to buy a telescope, that is outreach. And I thank you for doing that!

Judy Anderson - Orion has so much to offer! Taken in Southern Manitoba on March 12, 2021 using a 135mm f2 Canon lens on a Canon 80D, tracked. About 30, 30s images.

New Explore the Universe Handbook

By Dennis Lyons, Explore the Universe Coordinator



I want to tell you about some neat changes on the Explore the Universe webpage. There is now an Explore the Universe Workbook

https://bit.ly/2NxHgL8

that guides you through the process and includes an observing log and area for you to do sketches of what you see if you want. The requirements of the program have not changed. This all-in-one workbook makes it easier for those who are new to the science to get accustomed to the night sky and get recognition when they are done.

If you go to https://www.rasc.ca/explore-universe you will also find a very good YouTube video by one of our members who will show you how to use a star finder and other information on RASC observing programs.

[Cost of the workbook is $17.95 from the RASC Online Store – Ed]

CONGRATULATIONS

The Royal Astronomical Society of Canada
Winnipeg Centre

Is pleased to award the ***2020 Winnipeg Centre Service Award*** *to*

Sandy Shewchuk

To recognize his work on creating the Dark Sky Preserve at Spruce Woods Provincial Park

And the ***2020 Winnipeg Centre Achievement Award*** *to*

Sheila Wiwchar

To recognize her ongoing excellence in Astrophotography

News From National – New Computer System

By Gord Tulloch, RASC Winnipeg Centre

For many years the software that has been used at RASC National Office has been a bit underwhelming. Recently the person who maintained it for RASC has joined the company that made the original software, making maintaining the old system costly. Consequently, new software package was selected that would address some of the shortcomings of the old software. Several of your Council members have been in close contact with Jenna Hinds, who is coordinating the effort at National Office, and the company that makes the software so we can explore options to fully integrate it into our web infrastructure.

Some of the aspects of the new system that will be most visible to our members are as follows:

- A new process for joining and renewing with the Club which should be easier and more convenient than with the old system.
- All RASC listserv type mailing lists (including the present RASC-WPG and RASC-WPG-COUNCIL currently hosted at U of M) will be migrated to the new platform, which allows users to view messages in a Forum based interface in a web browser (similar to our forums on our web site) or as emails like RASC-WPG today. We are able to create new forums at will, so we will likely create separate lists for announcements, posting of astrophotos, etc. so members can choose what they subscribe to. We will have to determine whether we keep our existing forums or completely change to the National lists once it's available but given the high demand for an integrated forum/mail solution I think we will migrate completely to the National solution if it works well.
- Events can be posted to the National site and be visible to everyone, RASC members, or just Centre members. This should make it much easier for all members to see events that they can participate in.
- Members can sign up to volunteer at Events, and volunteer hours will be tracked to allow the Centre to provide appropriate recognition for those of our members who are putting in a lot of volunteer hours.

This last feature addresses a call from Judy Anderson in her article in this issue for a way to track the many, many ways that our Centre contributes to outreach activities in our community. We are hopeful that the tracking system will allow us to formally recognize our members for their excellent contributions which currently are only sporadically recognized.

National is currently piloting the software with some Centres with the intent of rolling it out to all Centres in the very near future, so keep an eye out for further announcements.

Review: The Celestron Deluxe Off-Axis Guider

By Gord Tulloch, RASC Winnipeg Centre

Over the past couple of years, I've tried a few techniques for getting auto-guiding working on my Celestron C8 SCT on a Sirius EQ/G mount in my backyard observatory.

For those who may be unfamiliar with auto-guiding, it's the process of locking onto a star and keeping it in exactly the same place in your image by sending very short pulses to the telescope mount as soon as it moves at all. Originally done by hand in the bad old days with reticle eyepieces and drive correctors, it became automatic using the SBIG ST4 auto-guider camera, which established the standard most telescopes still use today by providing an ST4 port on the mount. However, with many computer-controlled mounts, the ST4 port isn't required and software sends commands to the mount to move it to keep a guide star centred. In my case, I use the guiding software intrinsic to Kstars/EKOS to guide since it integrates well with the EKOS sequencer to slew, align, focus, and guide on any target I specify. The principle of an off-axis guider is to introduce a pickoff prism into the light cone from the telescope (hopefully in a spot that doesn't cause a shadow to fall on the camera sensor) so it can see some stars and lock onto one of them.

Orion Off-Axis Guider(stock picture) versus my installed Celestron Off-Axis Guider

Initially I tried an Orion Deluxe Off-Axis Guider for $80USD, mostly because I knew that my C8 with its long focal length (2032mm, or 1280 with a F/6.3 focal reducer which I generally have on the scope for DSO astrophotography) it would be difficult to get a guide scope of sufficient resolution to ensure that the stars in my shots remained round.

Unfortunately, the Orion unit did not work out well. The first unit I received was completely broken with the prism not even entering the light cone, and the adjustment screw frozen in place. Kudos to Orion that they just sent me a new one, not even requiring me to return the old one. However, I experienced

all sorts of issues getting the second unit working well also, which I also attribute to some issue with the prism. So, I gave up on the Orion product as an all-round lemon.

Next I mounted a C90 Mak-Cass scope, which is F/15 so has a similar 1350mm focal length to my main scope, piggyback on the C8. I got a piggyback rail from Scopestuff that really didn't work well as it didn't include radius blocks for mounting on the C8 tube assembly. From now on I will only get this kind of gear from ADM – the dovetail I got from them for the C8 works flawlessly. The piggyback approach introduced all sorts of flexure in the system. As well, it appeared the mount was reaching its limits with this assembly, which although it was well within the rated weight capacity for the mount, was impacting tracking since it was a lot of weight being cantilevered off the main tube. So, between flexure and tracking issues, this solution was a bust.

Finally, I decided to stop messing around and spend the cash to get a system that was reputed to be a robust and working solution – the Celestron Deluxe Off-Axis Guider from Ontario Telescopes for $409.49CDN landed cost.

After opening the box, it was clear that the Celestron product was much more robust than the Orion entry. As well, the long SCT Adapter and plate that came with the device solved a problem I had with the Orion OAG not clearing the JMI Motofocus focus motor on my C8. An OAG needs to be rotated occasionally since it may not have a guide star available in the field picked off by the internal prism.

Connecting my DLSR was easy – the first diagram in the manual was for this configuration, and all of the required pieces were included.

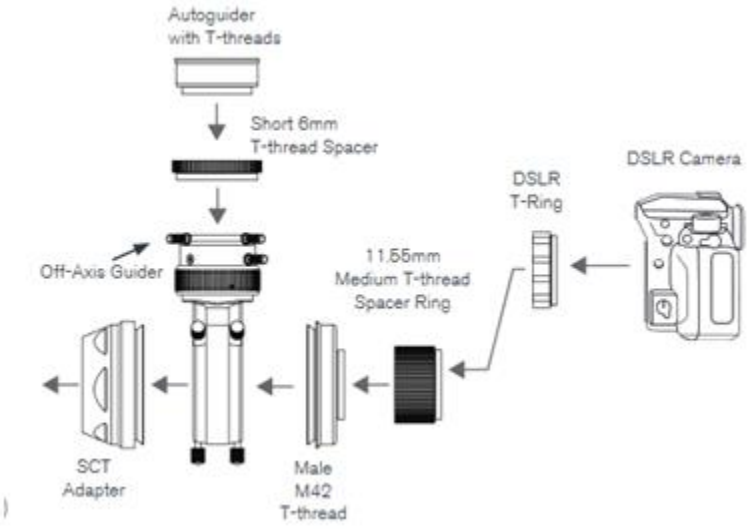


Diagram adapted from Celestron OAG93648 Manual

As you can see from the diagram, the OAG connects to the back threads on the SCT to the OAG then to a spacer (I used a 6mm to reduce the required backfocus) onto which the T-Ring for my Canon DSLR threads. An additional short 5mm spacer is required to connect my Orion Starshoot guide camera, while a longer spacer is required for my ZWO ASI224MC. Since I'll need the Starshoot guide camera for a second imaging system I'm working on bringing online, a 102mm refractor on my old CG5 mount, my (excellent!) ASI224MC planetary camera is doing double duty guiding my C8. I like having the ASI224MC attached to the scope rather than floating around my eyepiece box anyway!

The easiest way to focus the camera in an OAG is to get it close by aiming the telescope at a terrestrial object, then use the Looping function of the guide software (I have played around with both PHD2 and EKOS running on the Raspberry Pi 4 in my observatory) to take repeated images through the guide camera and allow me to easily focus on a bright star in the guide camera field. Once the guide camera and imaging camera are focused at the same point ("parfocal") then when you have the imaging camera in focus the guide camera should be also. The very nice helical focuser on the Celestron OAG makes this tedious task as pleasant as possible.

Once my observatory was back up and running after the final cold snap in February, I had a chance to give the OAG a good workout and was very pleased by the results, although at this writing I still have some work to do to get guiding working consistently on my C8 to the degree that I can use the automation in EKOS to automatically acquire a guide star for targets in a sequence. Long focal lengths are great for taking pictures of galaxies, but kind of fussy when setting up for guiding, it appears.

While I'm consistently getting good stars in the OAG, generally not requiring me to rotate the unit around hunting for a guide star, I'm thinking of building a rotation device to make that automated since it's a pain to have to run outside to do that while running the system from inside the house. There's always another project on the horizon every time I get one finished!

So, overall, I'm very pleased, and kicking myself for wasting time and money on less expensive options that just plain don't work!

GLP-TRAINED USERS AND SPOTTERS
RASC WINNIPEG CENTRE

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

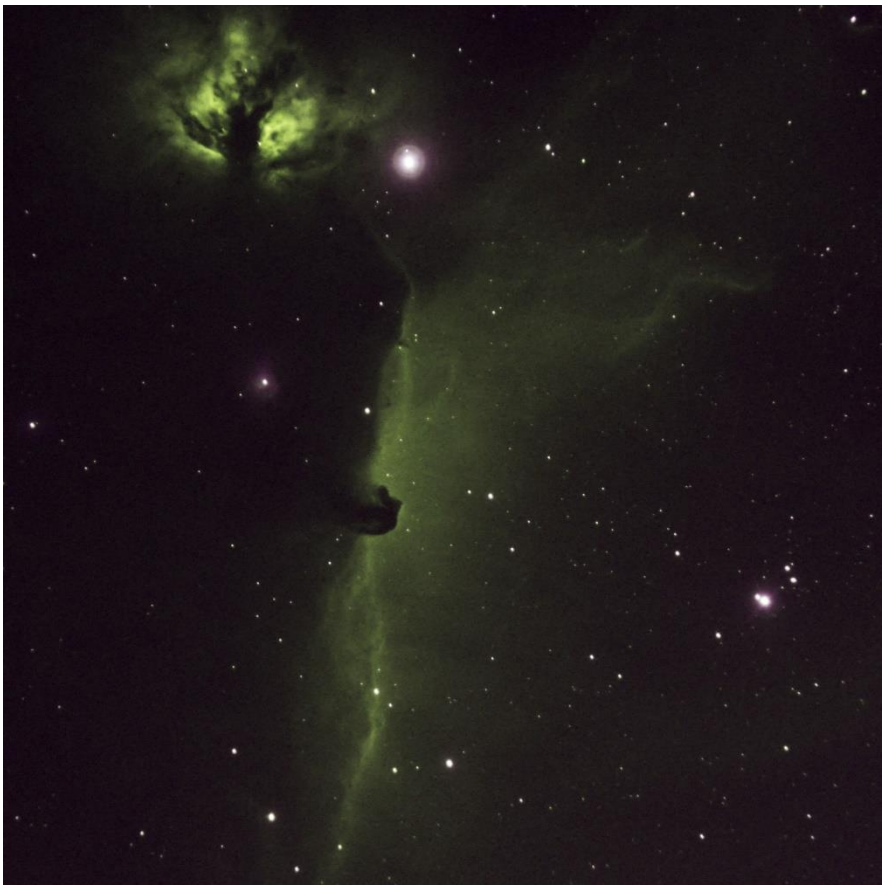
11 August 2019 (Expires 10 August 2022)

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		

Members Image Gallery



Kevin Galka - I took advantage of imaging from my front yard. I have horrible light pollution, probably around Bortle 8 (it's tricky to see the north star), but with my l-enhance filter I manage (dual narrow-band... Ha and OIII+Hb). I went after two targets on two separate nights. M42 on the 4th of Feb and the horsehead [on the 17th]. I also decided to process the images differently to try and enhance some of the nebulosity. (continued below)

M42 was processed with Ha, OIII and Red while the Horsehead was just Ha and OIII. While I'm always in favor of more natural colors this was a fun little experiment... and it certainly can highlight nebulosity that isn't as prominent sometimes as the Horsehead really showed.

Members Image Gallery [Cont.]

Jay Anderson - Here is another work-up of one of my images from the past. This is the globular cluster M4 in Scorpius. The red stuff along the left edge is a part of the extensive nebula that covers the area, illuminated by red Antares, just out of the field of view on the left. Another bright blue star is just out of the field at the top. The second globular cluster in the field is NGC 6144.

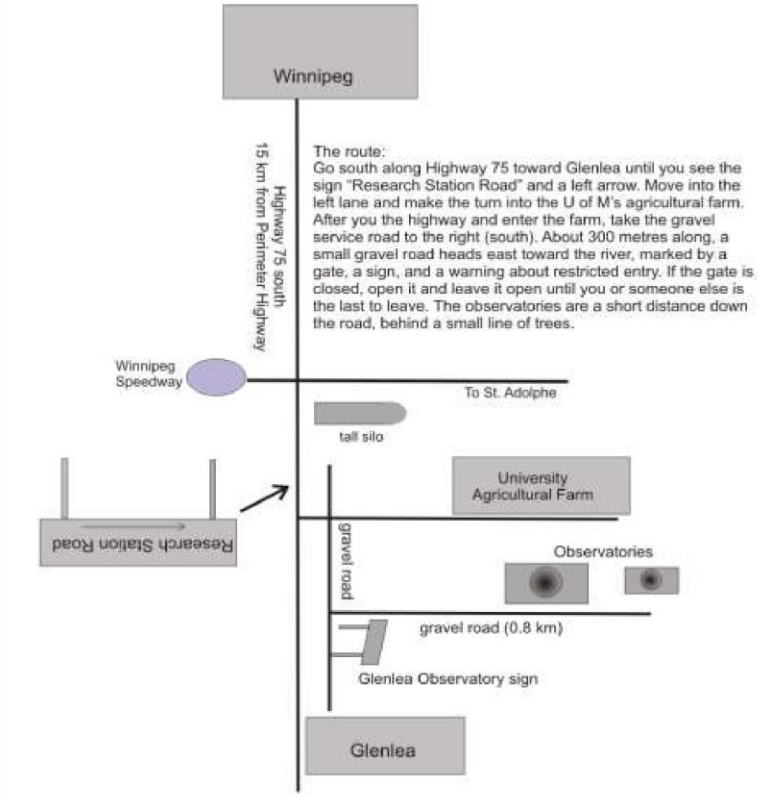
Shiela Wiwchar – Aurora and star trails captured from Kaleida Feb 7 2021

Members Image Gallery [Cont.]

Richard Konrad - Double Cluster NGC 869, 884 - These open cluster of stars are approximately 7,500 light years away in the constellation of Perseus. They are relatively young stars, estimated being approximately 12.8 million years old The image was taken with a 150 mm Takahashi Apochromatic Refractor f/7.3 and a QHY268C One Shot Color CMOS camera. Exposure: 3 x 150 sec, 5 x 300 sec = (32.5 min). Place: New Mexico, iTelescope observatory Software: StarTools 7

Facing Page:
Richard Konrad - This is an image of the Great Orion Nebula. It was taken from the iTelescope observatory in New Mexico. The telescope is an 11 inch RASA F/2.3 - the camera is a ZWO ASI071 Pro Color (one shot colour). Exposure: 18 x 150 sec (45 minutes total) The image is cropped from the original field of view.

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

Comets in May and June

This section lists all of the comets that are prominent in the sky, the visual magnitude and the declination of the comet. Brighter comets (lower magnitude) at higher declinations (higher h) are the best candidates to observe.

Month	Evening			Midnight			Morning		
	Comet	Mag	h	Comet	Mag	h	Comet	Mag	h
2021 May	**C/2020 R4 (ATLAS)**	**9**	**86**	**C/2020 R4 (ATLAS)**	**9**	**88**	**C/2020 R4 (ATLAS)**	**9**	**36**
	C/2020 T2 (Palomar)	**11**	**83**	**C/2020 T2 (Palomar)**	**11**	**87**	**C/2020 T2 (Palomar)**	**11**	**36**
	C/2019 L3 (ATLAS)	12	13	**7P/Pons- Winnecke**	**11**	**15**	**7P/Pons- Winnecke**	**11**	**54**
	C/2017 K2 (PanSTARRS)	**12**	**38**	**C/2017 K2 (PanSTARRS)**	**12**	**82**	C/2019 L3 (ATLAS)	12	6
	C/2021 D1 (SWAN)	**13**	**18**	246P/NEAT	13	14	**C/2017 K2 (PanSTARRS)**	**12**	**83**
	C/2020 J1 (SONEAR)	**13**	**28**	**C/2020 J1 (SONEAR)**	**13**	**31**	**4P/Faye**	**13**	**16**
							15P/Finlay	13	13
							246P/NEAT	**13**	**27**
							C/2020 J1 (SONEAR)	**13**	**15**
2021 Jun	**C/2020 T2 (Palomar)**	**11**	**77**	**C/2020 T2 (Palomar)**	**11**	**47**	**15P/Finlay**	**11**	**18**
	C/2019 L3 (ATLAS)	12	2	7P/Pons- Winnecke	11	6	C/2020 T2 (Palomar)	11	10
	C/2017 K2 (PanSTARRS)	**12**	**67**	**C/2017 K2 (PanSTARRS)**	**12**	**82**	**7P/Pons- Winnecke**	**11**	**36**
	C/2020 R4 (ATLAS)	**13**	**52**	**C/2020 R4 (ATLAS)**	**13**	**15**	**4P/Faye**	**12**	**28**
	246P/NEAT	13	6	**246P/NEAT**	**13**	**24**	C/2019 L3 (ATLAS)	12	12
	C/2020 J1 (SONEAR)	**13**	**37**	**C/2020 J1 (SONEAR)**	**13**	**25**	**C/2017 K2 (PanSTARRS)**	**12**	**67**
							10P/Tempel 2	12	12
							8P/Tuttle	12	7
							246P/NEAT	**13**	**26**
							29P/Schwassmann-Wachmann 1	13	9

Data courtesy of Seiichi Yoshida (http://www.aerith.net/comet/future-n.html)