

THE HORIZON

New Brunswick Centre | Royal Astronomical Society of Canada | Summer 2015

Inside This Issue

Summer never fails to be exciting with Star Party after Star Party to attend! Read recaps of the Star Parties that have already happened and check out the dates for the ones yet to come throughout this issue!

Also, don't forget to check out our featured article *Construction of a Carved Telescope Tube* on the front page, written by François Thériault.



Construction of a Carved Telescope Tube

By François Thériault

After several months of painfully cloudy nights, I took it upon myself to undertake a challenging project: a carved tube telescope. Having acquired the mirror set for a 4.5 inch reflector telescope, I decided to embark on the journey.

First off was the tube construction itself. A common technique in wood working to

Education and Public Outreach Committee Report

The Royal Astronomical Society of Canada has supported the Canada Wide Science Fair (CWSF) since its inception in 1961, awarding prizes for the best astronomy projects. This year, the CWSF was held at UNB Fredericton, the first time it has been in New Brunswick. Excellence in Astronomy awards were presented to Janet Dawson of Victoria, BC, in the Junior category and to Caleb Winder of Camlachie, Ontario in the Intermediate category. Science East hosted a three-day exhibition at the Currie

construct wooden tubes is called coopering. Basically, wooden wedges are assembled into a circle and glued together. This is the same technique that is used to construct wooden pails and barrels.



For my purposes, I chose a 12 segment tube, which works out that each segment has to be slanted on both

sides by a 15 degree angle. This is a common angle and easily achievable on a table saw. I then did a measured drawing to work out that the bottom of each segment had to be 1-3/8 inch.

Once the segments were glued and assembled, it was left to dry for a full day to ensure the glue reached its maximum strength.

Next was a quick pass on the wood lathe to rough out the high spots and turn the tube into a cylinder.



The artwork I decided to use is readily

Centre that week, which included a busy RASC NB booth.

So far this year, RASC NB members have reported 37 outreach events for 3273 people, distributing 1570 Star Finders, 1143 Moon Gazers Guides, and 539 Getting Started in Astronomy pamphlets. Special thanks goes to Holly Ayles for organizing the booth at the CWSF and for coordinating several other events. Special recognition goes to Chris Curwin, who has been performing solo public observing for over a year. Recently, Chris attracted the 1000th visitor to his eyepiece.

Centre outreach events reported since February are (date, event, number of public participants, location):

recognizable. It is from a book written in 1687 called Firmamentum Sobiescianum sive Uranographia, and the artwork is by the astronomer Joannes Hevelius.

Since I wanted to make the figures quite large

to be able to get the detail in the carving. I was limited in the number of figures to 6, all signs of the zodiac: Aquarius, Gemini, Leo, Pisces, Taurus, and Virgo.



The layout of the artwork onto the tube was done next, as well as the careful placement of the focuser, the support saddle, and the finder.

The roughing out of the artwork was done with a router at first and carving chisels were used next to refine the removal of wood around the figures. The full carving was refined further using a power carver with gradually finer grinding stones. A final smoothing and the carving was completed.



I chose the background and figure colours to render the artwork, using historical colours to make the figures pop: marine blue for the background and raw umber for the figures.

March 10, presentation for 15 at the WBJAC meeting at UNB Fredericton

March 26, presentation for 9 Cubs in Saint John

March 26, Science East Illuminate exhibition for 70 in Quispamsis

March 28, Earth Day exhibition for 200 at the Regent Mall in Fredericton

April 12, solar and night observing for 28 in 2 sessions at Saints Rest Beach, Saint John

April 21-23, Astronomy Week presentations for 29 over 3 evenings at Rockwood Park, Saint John

April 25, Astronomy Week presentation and telescope clinic for 16 at Rockwood Park

April 25, Amazeatorium exhibition for 500 at Harbour Station, Saint John

April 25, night observing for 8 at Rockwood Park

The entire process from start to finish was about 8 weeks, with about 30 hours of actual carving. The exercise was very enjoyable and I would certainly attempt another one.



Great Bear, Black Bear

By Adrien Bordage

Well, the first of our Star Parties for 2015 is complete. The Kouchibouquac Spring StarGaze 2015 was held at the Kouchibouquac National Park from May 22-24, and it was a highly enjoyable success. I am eternally grateful to many of our RASC NB members, and some other local astronomy enthusiasts that attended and helped to make it a success. Among those that attended were my travelling companions Chris Curwin and Paul Owen, and other RASC NB members, Yvon Hachey, Francois Theriault, Roger Pitre, Don Williams, Emma MacPhee, Mandy Bregg, Christopher Lund, Laura Sponagle, and a couple of local astronomy enthusiasts that brought along their newly acquired telescopes to get some assistance on how to set them up and use them.

April 28, presentation for 10 Guides in Saint John

April 30, presentation for 48 elementary students in Rogersville

May 14-16, Canada Wide Science Fair exhibition for 1075 over 3 days at UNBF

May 18, solar and night observing for 52 at Saints Rest Beach

May 22-23, presentations, activities and observing for 80 at the Kouchibouguac Star Party

May 28, solar and night observing for 81 over 3 days at Saints Rest Beach

June 6, solar and night observing for 27 at Saints Rest Beach

June 13, solar and night observing for 37 over 2 days at Saints Rest Beach

June 17, power outage night observing for 12 neighbours in Saint John

The only nuisance I could perhaps complain about was that it was quite windy for much of the weekend, which forced us to take down the RASC NB Canopy after the first night. We had some light rain for much of Friday afternoon and into the evening; however, it cleared beautifully at about 1am on Saturday morning. We had an enthusiastic crowd of campers show up for the “What’s Up” talk that evening and I am sure they were eager to look through our telescopes that night, but the skies just would not clear in time. It was a bit chilly that night, so most of us had retired for the evening before it started to clear.

One of the blessings was that the Park provided us with a “Prospector” style tent, which can sleep up to 8 people comfortably. They had also provided us with 5 stackable bunk beds so it was certainly nice not to have to worry about bringing our own mattresses. We only had to supply our own blankets, sleeping bags, and pillows. We were also able to have electricity brought into our tent, so we had a space heater provided by Chris C to keep us warm and comfy. Saturday brought partly clear skies and we had some absolutely wonderful views of solar sunspots, prominences, and flares, among others, thanks to solar scopes provided by Roger, Paul, Don, Chris, and the RASC NB PST.

June 24-26, solar and night observing for 80 over 3 days at Saints Rest Beach

Remember to record your events on the RASC Web site. Information on filling out the form is in the Centre Policy Manual under the Library section of our website. Recording these events allows us to receive handouts, such as the Star Finders from RASC, for just the cost of shipping. When I sent a request for more handouts recently to the Society Office, including our usage numbers at outreach events, I received the following comment from our Executive Director, Randy Attwood:

“That is quite the program [RASC NB] are running in NB. Congratulations!”

Article by Curt Nason

The most memorable view I experienced was of a massive jutting prominence through Paul’s Orion 110mm F/7 Apo Refractor fitted with a Daystar Quark (Prominence model). It was exhilarating to see such fine, intricate, structural details in the prominences’ filaments. We also had some very fine full disk views through Roger’s Lunt 60mm H-Alpha scope, Chris’ Lunt 35mm, and Don’s white light Baader type filter showing very nice sunspot details.

Paul Owen gave a fine slide show talk on Astrophotography for Beginners to an eager crowd of onlookers. Paul has graciously offered to do a Beginners’ Astrophotography Clinic at all of our remaining Star Parties for this year, so if any of you reading this has considered getting into it but are unsure how to get started, you should consider attending one of Paul’s clinics at one of the remaining Star Parties for this year.

After our dinner BBQ, it was time to prepare for the “What’s Up” talk, this time in French by Yvon Hachey. Again, there was a good crowd of campers with lots of enthusiasm in attendance. Part way through his talk, one of the Park staff halted the talk and quietly asked everyone to get as close as possible to each other near the theatre stage as there was a Black Bear just about 75 yards down the walking path looking in our direction!

Photos from Kouchibouquac!



Wow, I had never been that close to a Black Bear out in the open. It was both exhilarating and a bit unnerving at the same time. With all of us huddled together, we must have appeared to the bear as one very large and ominous predator, and perhaps this was the reason for it scooting off into the woods shortly after.

The skies clear up wonderfully for Saturday night and into Sunday, and we had about 40 campers show up for some wonderful views of a 4 day old moon, Jupiter, Venus, and loads of Star Clusters, Nebulae, Galaxies, and, after midnight, Saturn.

Sunday morning was mostly cloudy, though we were still able to get a last peek at the Sun for the scheduled solar viewing session before packing up and heading back home. The staff at Kouchibouquac Park were so happy with the event that they scheduled us to do another Fall StarGaze event for the weekend of September 18th to 20th, 2015. They informed us they can now provide us with two of the Prospector tents, which is greatly appreciated.

Details for the Fall Kouchibouquac StarGaze will be sent to the membership soon.

nifty H-Alpha (Lunt 35mm) and White Light (70mm ref) setup for those interested in getting a “double dose” of the Sun. There were about 20-30 onlookers for the “What’s Up” talk on Friday evening (outside at the Astronomers’ Campsite), and it was unfortunately apparent by that time that the dreaded cloud cover had settled in making the chance of any observing for the public spectators effectively 0.

On Saturday morning RASC NB member Paul Owen gave his “Getting Started in Basic Astro-Imaging” slide show at the Rec Centre to entice anyone into believing that they too can acquire their very records of the astronomical targets that await. The quality of the astro images that Paul has acquired in the very short time that he has been involved in astroimaging continues to

GA 2015: Halifax



By Adrien Bordage

I was very fortunate to have been offered transportation to and from the recent RASC GA, thanks to Curt Nason, so I decided to take him up on his offer and I was glad that I did.

Our NB Centre was well represented with 6 members attending the GA (NAC Rep Peter Jensen, Curt Nason, June MacDonald, Emma Macphee, Marilyn Bregg, and myself).

The Annual RASC GA has a little something for everyone (riveting business meetings, scintillating speakers, day tours of local attractions, and a chance to meet some old faces as well as new ones, among others).

The weather was very cooperative as temperatures in the mid to high 20s with lots of sun for most of the 5 days. Staying in the St. Mary’s University campus dorm rooms proved very convenient as it kept us close to most of the action.

designated campground, please contact Adrien Bordage by email at bordagea@nb.sympatico.ca or by phone at (506) 646-0226 to reserve your spot prior to September 2nd.

Please refer to the Parks Canada website at pc.gc.ca/eng/pn-np/nb/fundy/index.aspx for other interesting local things to see and do.

*Articles by Adrien
Bordage*

COW Star Party

2015, July 17th-19th

We had one of our best attendance records, with 43 astronomers in attendance at this year's Mactaquac Star Party. There were also approximately 23 telescopes set up, which was a very good showing

Staying true to his form, Curt brought along his trusty PST scope and a white light filtered Astroscan to offer some views of the Sun. Some surprised and thankful RASC members were pleased to have a look through them. After all, what is a GA without a little bit of observing of some kind? The university opened its observatory to RASC members on the evening of July 4th to show off its 6 meter Planewave Dall-Kirkham telescope. Needless to say, there was a fairly big lineup.

Much of the "buzz" talk during the GA was the announcement that RASC National had bought out the Skynews Magazine.

There were many interesting speakers, including the usual Northcott Lecture (Prof Rob Thacker) and the Plaskett Lecture (The Study of the Accretion of PSR J1023+0038, Anne Archibald), just to name a couple. There were the traditional paper presentations and poster displays as well. Being a telescope junkie, I very much enjoyed Damien Lemay's talk about the recent completion of his new 3 storey observatory, which houses a 24 inch EQ mounted Newtonian (mainly for observing), and 25cm and 20cm SCTs for variable star observations. Damien will be one of our guest speakers at our upcoming RASC NB GA this fall.

indeed.

The weather forecast called for mainly sun throughout the day on Friday, with clouds moving in at about 9 or 10 pm, and a mainly cloudy day throughout Saturday, with rain sometime in the afternoon. It is always a tough call to make when the weather forecast is 50/50 regarding the chance of observing, but I had to go with the forecasted chance of some observing on Friday evening. I decided to make the COW a GO. There was rain on the way for Saturday afternoon, though, so I reluctantly made the call of cancelling the BBQ.

It was nice to see some new faces; Emile Cormier (Skywatcher 10 inch GOTO dob), Dwayne and Jenna Branch, Gary and Elijah Lockhart (Salisbury NB),

Another interesting event was a “Smudging Ceremony” performed by members of the local Mi’k Maw Band.

According to the Mi’k Maw, smudging is the act of wafting sacred smoke over oneself for purification. I have always been particularly interested in ancient traditions of various cultures so I was very pleased to have watched the ceremony.

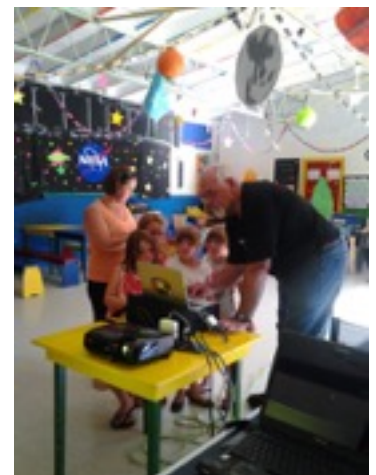


This was my seventh GA and I look forward to attending many more as I thoroughly enjoy the variety of interesting speakers, and meeting many wonderful fellow astronomy enthusiasts from across the country. If you ever thought about attending a GA, but were not sure, I would say give it a try. I think you will enjoy it. The London Centre will host the next RASC GA during the Victoria Day long-weekend of 2016.

and Bruce and Madison Boyd to name a few. If I forgot a new face or faces, please let me know. It was also nice to see many, many of the regulars, too many, in fact, to name here. A particularly welcomed surprise was a visit by Ted Gull, who gave a talk titled “Hubble Space Telescope; 25 years and still pushing the Frontiers”. Some of you may remember Ted speaking at one of our RASC NB meetings. Ted recently retired from his employment as one of the astronomers analyzing observational data from the HST.

We had some wonderful solar viewing throughout the afternoon on Friday thanks to solar scopes of various types provided by Yvon Hachey, Chris Curwin, and Paul Owen, just to name a few. Chris Curwin had his

Pictures from the COW 2015



amaze me.

I was especially pleased that prolific RASC NB observer, sign maker, and graphics artist Ted Dunphy took some time to show me the workings of his self designed and produced Constellation Quest board game. I am hoping that (with Ted's approval), we could make it a regular item at all of our future Star Parties for the young and old. Did I mention that I love board games? The game is suitable for ages approximately 8 and up.

By mid-afternoon Saturday, there were "spits" of rain, indicating the inevitable showers to come. I reluctantly decided to pack up and head homeward, but I left feeling vindicated, as I was able to reacquaint with many old faces, meet some new faces, and hey, we got some observing in as well. Not so bad after all.

Star Party Season Isn't Over Yet!

By Adrien Bordage

Being one of our very own RASC designated Dark Sky Preserves, Mt. Carleton Provincial Park offers exceptionally Dark Skies with an extremely low level of artificial light pollution. It has a Maximum Visual Magnitude measurement of about +6.5 to +7.0 on good nights.

For those that wish to attend, they are urged to contact Adrien by email at bordagea@nb.sympatico.ca, or by phone at (506) 646-0226, with the details of how many will be in their party (including the names of each), and which nights they plan to stay, no later than two days prior to the event to qualify for the two nights free camping.

Listed below is a schedule of the events.

Friday, August 14th

2:00pm – 4:00pm: Solar observing at Armstrong Brook Campground, weather dependant.

8:00pm – 9:00pm: "What's Up" Slide Show at Cookhouse at Armstrong Brook Campground.

Upcoming Meetings

It's still star party season, but the fall will be upon us soon. Mark your calendars for our fall meetings now!

October Meeting

Date: October 17

Location: Saint John @
Rockwood Park
Interpretation Centre

AGM/November Meeting

Date: November 7

Location: Sackville @
Mount Allison University

Contact Curt Nason with any items to be added to the agenda or any ideas for presentations, workshops, etc.

*Horizon Editors: Holly Ayles and
James Ayles*

9:30pm – 11:30pm: “Night Sky Observing With The Stargazers” at Armstrong Brook Campground, weather dependant.

Saturday, August 15th

10:00am – 11:00am: Beginners Astrophotography Clinic at Cookhouse at Armstrong Brook Campground.

10:00am – 2:00pm: Solar Observing at Armstrong Brook Campground, weather dependant.

11:30am – 12:30pm: Telescope Clinic at Cookhouse at Armstrong Brook Campground

11:00am – 12:30pm: Children’s “Constellation Quest” board game fun for kids! Prizes for all!

08:00pm – 09:00pm: “What’s Up” Slide Show at Cookhouse at Armstrong Brook Campground.

9:30pm – 11:30pm Night Sky Observing With The Stargazers, Armstrong Brook Campsite, weather dependant.

Sunday, August 16th

9:00am – 10:30am: Solar Observing at Armstrong Brook Campsite, Weather Dependant.