

# AUTORA



Volume 43, No. 8

The Royal Astronomical Society of Canada - Windsor Centre

May 2018

## Science Rendezvous 2018 Photos by Mike Mastronardi



On Saturday May 12 the RASC - Windsor Centre participated in the annual Science Rendezvous events in the Education Gym and CAW Centre at the University of Windsor. Due to the weather solar observing had to be cancelled but indoor activities took place between 10:00 a.m. and 4:00 p.m.. The core team of volunteers can be seen in the photo at top left - thanks go out to Steve Pellarin, Susan Sawyer-Beaulieu, Nancy Ng and Mahayarrahh-Starr Livingstone. Not pictured are Mike Mastronardi who was taking the photo, Rick Marion who arrived later to help out and Elizabeth Ismail who worked on the preparations but could not attend. Also thanks go out to Steve Pellarin for developing and getting printed the vertical banner that you can see on the right side of the photo at bottom left. Photo at top right shows Nancy helping explain how to use an all-sky chart to a couple of visitors. Photo at bottom left shows a crowd around our table and Steve showing them where to look to find the stars ☺. Photo at bottom right shows M-Starr demonstrating the Bluetooth capabilities of his telescope mount and the goto software on his iPad to a young visitor and his father.

### *In This Issue*

Science Rendezvous 2018	Cover
Events / Housekeeping Items	Page 2
April Meeting Minutes	Page 3
At the Eyepiece: Summer Observing	Pages 4 & 5
Member Astrophotos	Page 6

## Calendar of Events

### Our next meeting...

Tuesday June 19, 2018  
7:30 p.m.

at  
Ojibway Park Nature Centre  
5200 Matchette Road

### Main Speaker...

Kate Helsen  
Faculty of Music - Western University

### Topic...

*"Astronomy in Music and Poetry"*

### Activities...

**Moon and Venus:** Look for the thin crescent Moon 6 degrees from Venus on the evening of Thursday May 17.

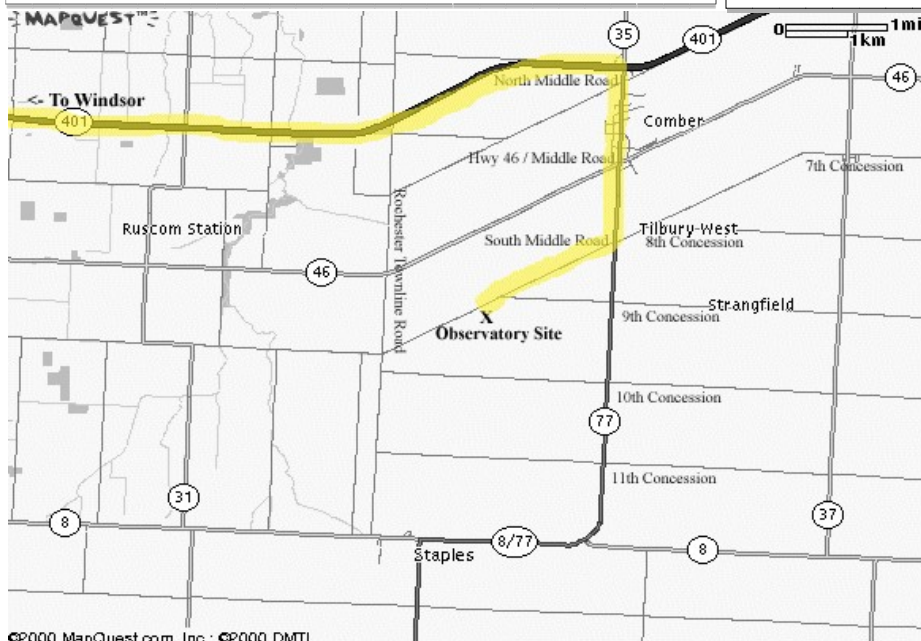
**Moon and Saturn:** On Thursday May 31 when the Moon and Saturn rise around 11:00 p.m. EDT they will be about 2 degrees apart.

**Council Meeting:** The RASC - Windsor Centre council will be meeting at 7:30 p.m. on Tuesday June 12th at Mike Masironardi's house.

**Venus and M44:** Look for Venus just 1/2 degree from the Beehive cluster (M44) on Tuesday June 19.

**Vesta:** Is at opposition on Tuesday June 19 in the constellation Sagittarius.

**Jupiter, Saturn and Mars:** Are at opposition on May 8, June 27, and July 27 respectively. They will put on quite a show this summer and now is the time to start observing.



### Hallam Observatory Site

**Directions:** The map at left shows the Comber area and it includes the major highways (401, 77, 8 and 46) that are in the area of the observatory.

The most direct route from Windsor is "highlighted" on the map which is to take Highway 401 East to Highway 77 South to South Middle Road. Turn right onto South Middle Road and go about 1 kilometer and just after the point where Concession 9 joins it (it is hard to see this intersection) you will find the observatory site on the South side (left) of the road. 3989 South Middle Road.

If you hit the Rochester Townline Road (you come to a stop sign) you have gone too far.

## Submissions

Aurora is published monthly except for July, August and December. The September, October, January, March and May issues are full newsletters (usually 6 pages) with a number of member submitted articles. The November, February, April and June issues are short flyers (2 pages).

Submitted articles can be of any length from a paragraph to multiple pages. I can scan pictures and/or diagrams (both prints and film) to support your article and the originals will be returned to you.

Submission deadline is the 1st of the month.

Editor: Steve Mastellotto Email: [mmastellotto@cogeco.ca](mailto:mmastellotto@cogeco.ca)

## Membership

The Windsor Centre of The Royal Astronomical Society of Canada meets on the 3rd Tuesday of every month (except July and August) at the Ojibway Park Nature Centre. In addition to regular meetings the centre hosts a number of observing nights, a picnic and a December social. Members receive a copy of the Observer's Handbook, a subscription to SkyNews magazine and access to the Centre's library and telescopes. Optionally the RASC Journal is available in print form—online version free.

Annual Membership Fees: Please see the RASC website at [www.rasc.ca](http://www.rasc.ca) for current rates.

Contact Nancy Ng ([mysticdog2012@gmail.com](mailto:mysticdog2012@gmail.com)) or visit our website at: <http://www.rascwindsor.com> for more information.

## April 2018 Meeting Minutes by Dan Perissinotti

The monthly meeting of the **Royal Astronomical Society of Canada - Windsor Center** was held at the Ojibway Park Nature Centre on **Tuesday April 17, 2018**.

Windsor Centre **President, Mike Mastronardi** chaired the meeting and **called the meeting to order at 7:30 p.m.** and welcomed members and guests to the Ojibway Nature Centre.

Mike invited members to review **the minutes of the March 20th, 2018** meeting which were printed in the March Aurora newsletter. A **motion to accept the minutes** was made by **Dr. Susan Sawyer-Beaulieu**, seconded by **M-Starr Livingstone - MOTION CARRIED**.

Mike provided an overview of the meeting and introduced our main presentation.

### Main Presentation

#### **Life on Other Worlds, 1947 to Seventeenth Century with Excursions into Antiquity – Mr. Gary M Ross.**

Mike welcomed Gary Ross to the floor to explore life on other worlds, from our first “empirical” proof to the early years of insight into worldly beings.

How old is the concept, or mind experiment of **extra-terrestrial life**? Some might say that the workers in the field who hypothesized life outside of Earth, may not be of the scientific mind, in the common sense of the term since the 16<sup>th</sup> century, however their ideas cannot be overlooked. One could say that it started with the first **“Atomists”**: Leucippus and his student Democritus. Who said the cosmological form of atoms is not unique, so since atoms and voids are intimate, there must be worlds. Worlds that are not alike, some have no sun, no moon, no life, and the opposite. Atomists maintain the processes are maintained by **necessity, and occur spontaneously**.

The church eventually chimed in with their scientific understanding and the introduction of their doctrine of life and theology. Noting that if there are other worlds, with life, then their meaning would be superfluous. It would be better than to make a simple world, than many imperfect worlds. After 1277, **Nicholas of Cusa**, one of the most intelligent minds of the Christian community at the time, **believed logically, that there were numerous earth like planets**.

Mike thanked Gary for his trip to Canada from the Warren Astronomical Society, and welcomed him to stay for the conversations during our coffee break.

After the **coffee break**, a **50/50 draw** was held, Nancy Ng was the lucky winner, and she donated back to the club.

### Director of Observing Report

**Steve Mastellotto** was welcomed to the floor, and opened his report with a question period on some local observing and members’ photographs, outings, and stories.

The March bulletin from RASC, included a fundraising project for the 150<sup>th</sup> anniversary to purchase a remote telescope operation (RC Optical Systems 16” f9, Ritchey-Chretien) at the Sierra Remote Observatory. This project has been on the go for almost 3-4 years now. The National office has now purchased the telescope that Steve has been using for the past few years.

Steve presented some of his most recent images from the telescope he operates at the remote location. Many beautiful images including **Horsehead Nebula** in Orion, with a total exposure time of about 25 hours. **NGC 891** in Andromeda, with an exposure time of almost 11 hours. **NGC 7023, the Iris Nebula** in Cepheus, with an exposure time of just over 15 hours.

Activity since last meeting included conjunctions of:

- The Moon and Aldebaran on March 22<sup>nd</sup>
- Venus and Uranus on March 28<sup>th</sup>
- Mars and Saturn on April 7<sup>th</sup>

Steve highlighted **Brian Simpson’s work in astrophotography** through the years,. Starting in 2012, Brian has continued to progress in his skills shown through his photographs of the **Orion Nebula**.

**Upcoming events** include:

- Mercury, reaching greatest western elongation on April 29<sup>th</sup> in the morning sky
- Venus will continue to climb from sun’s setting time throughout the summer
- Mars is visible in the morning sky
- Jupiter reaches opposition on May 9<sup>th</sup>
- Saturn will rise ahead of Mars, in the morning sky
- Uranus will reach conjunction on April 18<sup>th</sup> and Neptune’s occurred on March 4<sup>th</sup>
- The Lyrid Meteor Shower peaks on April 22<sup>nd</sup>
- Eta Aquarid Meteor Shower peaks on May 6<sup>th</sup>

**REMINDERS:** Science Rendezvous will be held at the University of Windsor on May 12<sup>th</sup>, volunteers are needed. Astro Luncheon at **SKIPPY’S RESTAURANT** every second Wednesday of the month, at noon. Located at 954 University Ave West, Windsor.

**Mike** thanked everyone for coming out to the meeting and reminded everyone that the **next regular membership meeting** would take place on **Tuesday May 15<sup>th</sup>, 2018 at 7:30 p.m.**

Meeting **adjourned at 9:48 p.m.** April 17<sup>th</sup>, 2018.



## At The Eyepiece: Summer Observing by Mike Ethier

This month's article could be subtitled "Summer Plans". Not the kind of summer plans most people undertake. Due to hot weather, hordes of tourists, and jammed highways, I limit my travels to spring and autumn when possible. Most of the summer planning I carry out has to do with astronomy.

For beginning sky watchers, or those readers who have been away from things for a time, summer skies are the easiest to get to know. There are two reasons for this. First, summer stars are around longest. By the time you read this article, summer stars are well placed by midnight in our skies, and will remain there well into October. There is time to learn the constellation outlines and the most prominent stars, over and over again. The second reason has to do with weather. This is the warmest time of year to stand or lie around and star gaze, not worrying about frostbite or wind chill. Of course the downsides are other kinds of bites, namely mosquitoes, and also the late night times required for dark skies. In June and July it isn't really dark in Essex County until about 10:45 pm EDT.

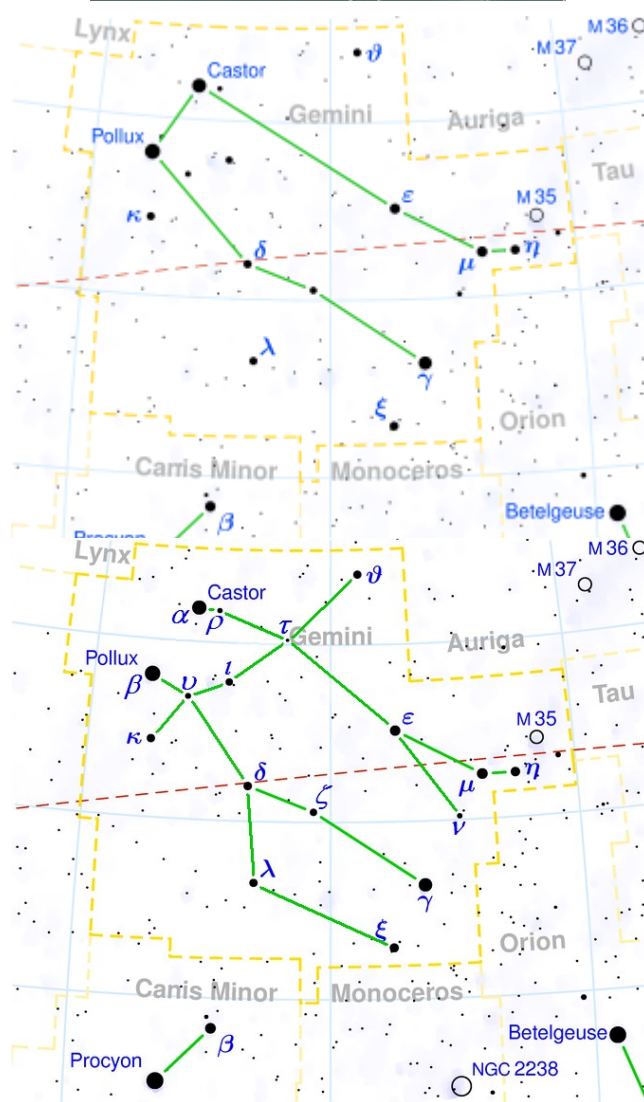
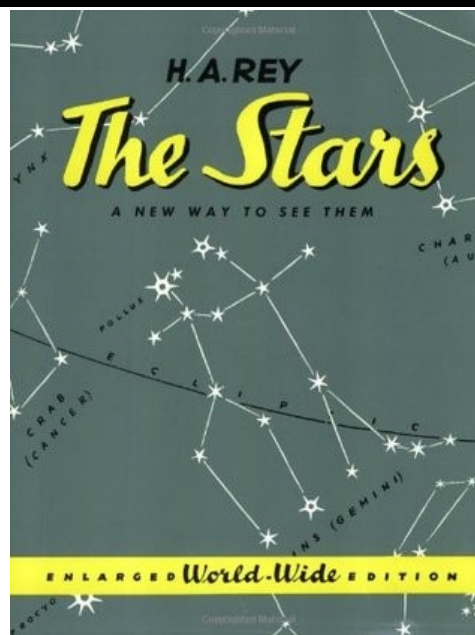
The Stars: A New Way To See Them by H. A. Rey is a wonderful book for children and adults to help you understand the night sky. After using this book, the patterns will make much more sense to you, even if you are already experienced with the night sky. Once the constellations have been learned, and the major stars of summer can be easily found (there are several other stars one should know beyond the obvious "summer triangle"), the next thing to note is which planets are easily visible. Summer 2018 is going to be a big bonanza for planet watchers, so if you have a nicely-sized refractor (3" or larger), it is a good time to dust it off and practice using it. Venus is well placed now, and Jupiter is spectacular by midnight. Saturn will be low in the sky this summer, but it is still the most breath-taking sight in a small telescope. And Mars is well on its way to a very close and bright summer opposition.

Next come the deep sky objects, and summer skies have them in every available assortment, size, and shape. If it has been awhile since you've been at the eyepiece of a scope, then starting with the summer Messier objects is always fun. There are so many of them that you might consider zeroing in on one type; for instance, bright nebulae, or open clusters, or globular clusters, or planetary nebulae. If you choose this method, then supplement your list with some of the best NGC objects of that type (see our Observers Handbook for a great list). For naked eye and binocular observers, those coal black sections of the Milky Way are a fascinating branch of observing to follow and learn about.

My main interests are in observing the NGC objects, as well as splitting double stars and noting their colours. For double star enthusiasts you can design your own observing list. Visit [www.stelledoppie.it](http://www.stelledoppie.it) to design lists by area of the sky. You can choose from their prepared lists, too, which contain the brightest and best from each constellation. I tend to pick doubles with primary stars from 9.5 mag. and brighter, which often provides me a lifetime of possibilities within a single constellation (the list for Cygnus, for instance, is nearly endless).

This summer I plan to begin observing the NGC objects of Draco, having completed the lists for most of the other summer constellations. I also intend to continue with detailed double star work in Delphinus, Sagitta, and Hercules. It does not have to be a pristine sky to observe doubles. I sometimes work in pretty thick haze with good success. I prefer the Uranometria 2000 At-

(Continued on page 5)



Top: H. A. Rey's book *The stars: A New Way To See Them*. Middle: *The classical outline for the constellation Gemini*. Bottom: H. A. Rey's re-interpretation of Gemini's star pattern.

## At The Eyepiece: Summer Observing (continued from page 4)

las, the all-sky edition, as well as the companion volume, which gives details on all of the 30,000 objects plotted on the maps. Of course I will also be watching the planets closely and at every opportunity. It needn't take a trip to Hallam to do successful planetary work; it can even be done from a light-polluted area. And I will be reviewing the constellations and brighter stars, as I do every season, trying to keep the big picture in my mind as I observe in detail. Good luck with your summer planning, and happy observing to all!

the major dark lanes were magnificent in contrast to the brilliant white stars and very bright greenish-gray gas. Using 72x the object was so large that I had to sweep across it to view it all. Overall, I was left very impressed by M 8 with this size of scope. The cluster shows about a dozen very bright stars, and there are about 20 fainter members.

In June of 2015 I returned to M 8 with my Orion 12" Dob. The cluster is a lovely roundish group of stars at 60x, with most members resolving.

At 100x the white stars are clothed in wisps of nebulosity. 120x reveals more than 100 stars, with the central area being rather dense, with stars branching out. A distinct line of stars curves north-following from the center.

The emission nebula itself is a vast area of nebulosity, one of the wonders of the heavens! Best seen with a filter, I used a Skyglow Filter first, then an OIII filter. Though spread far and wide, including across the main star cluster, the nebula climaxes

just following the cluster at a very bright, large knot of gas. Lines and swirls show vast amounts of detail, comparable to the Orion Nebula! 120x with a filter offers great views, with the OIII preferred. This is an object worth returning to year after year, so if you have not seen it in many years, it is time to view it once again.

Lastly (and leastly!) comes my view from August 2016 with Space Eye, my 2" Vixen refractor. The nebula is quite impressive at 25x with a Skyglow filter, with nebula and stars scattered across a very long and elongated area. At 30x the open cluster is nicely resolved. At 60x the nebula shows well, especially the brightest, smaller part, the actual "Lagoon." The cluster also shows well in this range, with many beautiful and bright stars resolved, including a fine double. M 8 turns out to be a great object in a 2" refractor! In other words, there's lots to see in any size of scope.



*Messier 8 - The Lagoon Nebula by Pete Barbaro. Image captured from Hallam Observatory on July 3, 2014 using an Orion 110ED refractor, Nikon D5100 camera, Orion AP LPR filter all mounted on the Celestron CG5-GT. Image is a combination of 37 x 150 second subs (93 total minutes) at ISO 800.*

### Messier of the Month

It seems almost ridiculous to choose only one Messier object from the riches that await summer observers. Messier 8 is also called the Lagoon Nebula, and is one of the wonders of summer skies. It lies between 4,000 and 6,000 light years away, and is about 110 by 50 light years in size. From our vantage point on Earth, M 8 is about 90' x 40' in apparent size. My first telescopic view was on Saturday, July 12<sup>th</sup> 1975, using my Tasco 4.5" reflector. I found the cluster associated with M 8 to be of more interest than the nebula, and I mentioned a bluish tint to the white stars. A dark lane could be seen, separating two brighter patches of the nebula.

Cut to July 18<sup>th</sup>, 1984. I am now observing with my Edmund 8" reflector. In that scope I preferred the view at 56x, using an OR 18mm eyepiece. The full extent of the nebula could be seen, and



## Member Astrophotos



**Top Left:** Messier 1 - The Crab Nebula by Mitch Arsenault. Mitch captured this image with his Celestron 8 and an Altair 183C Hypercam with 300 x 60 second subframes.; **Top Right:** The Moon by Jeff Peacock using his 8" f/5 Telescopes reflector a Pentax K1 camera and a single still image of 1/125 second exposure at ISO 200.; **Middle Left:** RGB Image NGC 5139 - Omega Centauri by Steve Mastellotto. 6 x 10 minute subframes for each colour channel (R, G, B) for a total exposure of 180 minutes (1 hour in each channel) using an Astro Physics 12" Riccardi-Honders f3.8 telescope, SBIG STXL16200 CCD camera from rural NSW, Australia.; **Middle Right:** LRGB image of Messier 63 - The Sunflower Galaxy by Steve Mastellotto. Lum channel is 22 x 15 minute subframes and RGB are 8 x 10 minute subframes for each channel. Total exposure is 570 minutes or 9.5 hours using a 16-inch f/8.9 RCOS telescope, SBIG STL11000M CCD camera from Sierra Remote Observatories outside of Fresno, California at 4600 feet elevation.; **Bottom Right:** The Moon by Mahayarrahh-Starr Livingstone using the AT111 at Hallam Observatory.