

AURORA



Volume 44, No. 2

The Royal Astronomical Society of Canada - Windsor Centre

October 2018

David Arthur Hamilton by Randy Groundwater

It is with great sadness to note the passing of Dave Hamilton, former member of the RASC Windsor Centre, on September 30, 2018 following a lengthy struggle with cancer. He was 72.

To say that Dave was a man of many talents would be an understatement. A Stationary Engineer by trade, he delved deeply into many interests throughout his life and excelled at all of them: Sailing (he was an instructor for the Canadian Power and Sail Squadron), carpentry (his meticulous attention to detail led him to be chosen to rebuild the navigator's desk for Windsor's Lancaster bomber), aircraft (he was a private pilot), photography (his photos appeared in Amherstburg's Gibson Gallery) writing, trains, fast cars and big motorcycles. He loved a good game of chess! A relentless perfectionist; those of us who remember Dave knew that he never did anything by half-measure.

And of course, Dave loved astronomy. It was during the late 1970s and early 1980s when he was an especially active member of our Centre. When it was decided to bring back a new and better version of our old "Aurora" newsletter after having been out of publication for nearly a decade, he was one of its first editors. Dave loved observing and was also one of the first "serious" astrophotographers in our midst back then, too. The photo, here, I took of Dave peering through his Celestron 8 on a clear, moonless evening at Amherst Point in the spring of 1979 was during one of many observing sessions we shared together through the years.

Though an intensely private man, Dave loved life. Above all he loved family, being a devoted husband, father and grandfather. While visiting with him and his wife, Joy, at their home on Rankin Street in Amherstburg on December 28, 1980, I was introduced to a young lady; a friend of Joy's named Anita Marie Gignac. Dave wasted no time afterward in encouraging me to follow up with her, and thank Heaven he did, for Anita soon thereafter became my loving wife!

Dave, you are missed. Our deepest and heartfelt sympathy is extended at this time to his wife, Joy; and family.



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Calendar of Events

Our next meeting...

Tuesday November 20, 2018
7:30 p.m.

at
Ojibway Park Nature Centre
5200 Matchette Road

Topics Will Include...

Annual General Meeting/Elections - Rick Marion

A Photographic Year in Review - Tom Sobocan

RASC Robotic Telescope - Steve Mastellotto

Director of Observing - Steve Mastellotto

Activities...

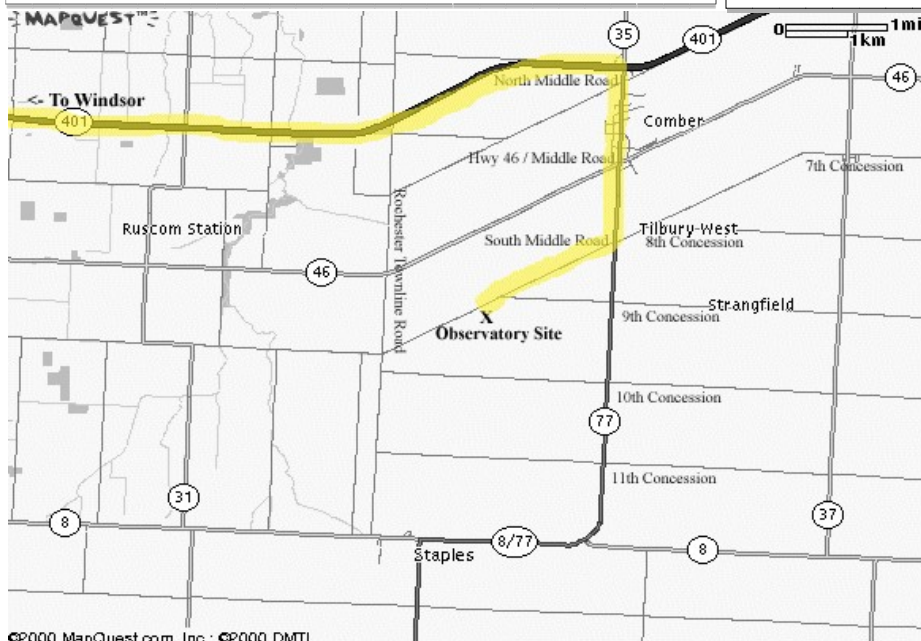
Orionid Meteor Shower: Peaks on the night of Sunday October 21st with a prominent gibbous moon in the sky for most of the night.

Uranus: Is at opposition on Tuesday October 23rd in the constellation Pisces.

Venus: Is at inferior conjunction on Friday October 26th as it passes between the Sun and the Earth. Extreme care should be taken if you decide to look for the thin crescent with your telescope a little over 6 degrees to the South of the Sun.

Daylight Savings Time: Ends at 2:00 a.m. on Sunday November 4th. Set your clock back 1 hour.

Leonid Meteor Shower: Peaks on the night of Saturday November 17th but like the Orionids the view of this display will be hindered by a gibbous moon.



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

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 for current rates.

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

September 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 September 18, 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 Park Nature Centre.

Mike invited members to review **the minutes of the June 19th, 2018** meeting which were printed in the September Aurora newsletter. A **motion to accept the minutes** was made by **Steve Mastellotto**, seconded by **Dr. Susan Sawyer-Beaulieu**. **MOTION CARRIED**.

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

Main Presentation

Mike welcomed our **Honourary President, Dr. Bill Baylis** to the floor for his talk **"Cosmic Connections"**. Dr. Baylis is a Physics Professor Emeritus at the University of Windsor.

Astronomy can be understood as a portal to understanding our **origins and future**. One of the earliest monuments to the cosmos can be observed in Egypt, the **pyramids of Giza**. The orientation of the pyramids can be extrapolated to the 3 stars in **Orion's belt** to within a few degrees.

An earlier example is the settlement at **Gobekli Tepe, Turkey** which dates to **11,000 years ago**. It shows the first domestication of animals, farming, pottery, and written culture. The site also depicts some of the earliest known representation of our **understanding of the cosmos**. Some symbols represent our changes in **rotational axis, constellations in the sky, meteorite collisions**, and so on. **Galileo (1564-1642) observed and documented the Sun, Moon, Venus, Jupiter, and the Milky Way**. Galileo marked the start of the telescope age of astronomy and a paradigm shift in our understanding of our place in the universe.

In the modern era, our understanding grew from an elemental understanding. H and He mainly created in the **"Big Bang"** (named by physicist Fred Hoyle) were created when the Universe was about 20 minutes old (H was 75% by weight and He 24% with 1% trace amounts of Li). Other heavier elements are known to be created within stars, and their supernovae. We soon started to study **Gamma Ray Bursts**, mass of stars through **gravitational lensing, neutron star collisions**, through to the latest studies on **gravitational waves**.

Mike thanked Dr. Baylis for his presentation. He then welcomed **Steve Mastellotto** to the floor to discuss the key holder access at the Hallam Observatory and the **2019 RASC Windsor Calendar**.

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

Prior to the DofO report, **Mahayarrahh-Starr Livingstone** presented us with a photo overview of **member's photos and nights out at the Hallam Observatory**.

Director of Observing Report

Steve Pellarin was welcomed to the floor and opened the D of O report with a question period on some local observing and members' photographs, outings, and stories.

A current full sky image of the night sky for September and October was discussed. Objects of interest included the setting "summer triangle"; Deneb, Altair, and Vega.

Mercury: almost at conjunction, will start to rise after sunset in October

Venus: setting in the west with the sun, moving towards inferior conjunction

Mars: Earth is slowly moving away from Mars. Apparent disk size will continue to shrink

Jupiter: will remain bright in the western sky, as it sets throughout the night

Saturn: much like Jupiter, it will remain high in the western sky throughout October

Uranus and Neptune: both near and past opposition, respectively

Events to look out for in the September night sky: **the moon** will be at apogee on the 20th, and will be 4.7 deg north of **Mars**. On the 21st, **Mercury** will be at superior conjunction. A large asteroid, **Vesta**, will be 2.8 degrees south of **Saturn** at +7.4 magnitude, which makes it very easy to see with a medium sized telescope. Finally, on September 30th, the moon will be 1.4 deg north of **Aldebaran** at 8:00 p.m.

Upcoming meteor showers: **Piscid**, peaks on September 21st, very faint with only 6 meteors per hour. **Draconids**, peaks on October 8/9th, in the past, there were as many as 500 meteors per hour. However in recent years, there have been no more than 4 per hour. **Orionids**, peak on October 21/22, with up to 25 meteors per hour.

Reminders: 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 **September 18, 2018 at 7:30 p.m.**

Meeting **adjourned at 10:06 p.m.** September 18th, 2018.

Hallam Observatory Fee

A reminder that the Hallam Observatory annual access/key fee of \$60 is due on October 1st. Please see our Treasurer Nancy Ng at the October meeting to pay for your key. If you no longer wish to have your own access to the observatory please turn in your key to Steve Mastellotto.

Key access to Hallam Observatory is available to all RASC Windsor Centre members in good standing who have been members for at least 1 year and complete a training session on the observatory equipment. Note that an additional one-time \$10 key cutting fee also applies for new keyholders.

At The Eyepiece: A Deep Sky Excursion from Messier 103 by Mike Ethier

When I set out for a night of deep sky observing, I have a list of objects on my clipboard that I hope to locate, write about, and sketch. In a future article I will explain how I go about creating and arranging my lists, and my reasons for doing so. Readers of this column already know that I am seeking all of the NGC objects visible from northern locations, and my deep sky travels take me even further beyond that virtually unconquerable catalogue. However, it is what I do at the end of an observing session, or if I need a break from a series of very faint objects I am hunting, that I wish to discuss this month.

To explain better, I will combine this month's article with my Messier of the Month sideline. At the end of the night's work I like to choose at least one bright object previously logged. After viewing it for a time, I then undertake a little journey into the surrounding skyscape. So let's begin with Messier 103, a distant open cluster in Cassiopeia and the last entry by Messier into his famous catalogue. I first observed it in August of 1978, using the Edmund 8" in northern Ontario.

"Another fine cluster, resolving to the center stopped down to 4" of aperture and using 36x. Averted vision helps resolution. At 6" of aperture stars resolve very well at this low power, while the full 8" of aperture begins to show splendid star colours in the brighter members, some of which actually overlay the cluster, rather than belong to it. At 56x and 4" of aperture the group was triangular in shape, and quite fine to view. Views were much improved at 6", especially at 72x and 112x. The member stars that were so very dim at low power were now much brighter, and a further group of very dim stars began to faintly resolve beyond them. At 8" and 169x M103 becomes quite large and bright, though not as rich as NGC 457 or Messier 52. 338x showed the central area well. Double star Struve 131 sits as a beautiful foreground object amidst the cluster."

I observed it again in October, 2013 from Hallam with my 12" scope.

"On a really clear, very dark October night, M103 is not an object to hurry over, especially with a 12" scope. Perhaps not as instantly likable as M52, nor with as many stars, this open cluster is still quite rich and beautiful to observe. Lovely even at 60x, there is a generous amount of brighter stars. These are led by a yellow star on one end, an orange one near the center, and a fine triple star on the side opposite the yellow star. The cluster remains bright even up to 200x, where over 40 stars can now be counted. The cluster is pretty dense, but don't be put off; even a 6" scope shows the group well. Don't be afraid to use high magnification."

After taking my time observing the bright object (often chosen on a whim), I begin to explore the immediate surrounding area. It helps to know your four directions before beginning, but is not essential. With a Dob, allow the object to move across the field of view. Where it exits is West (or preceding). North is 90 degrees counter-clockwise. Let's begin by heading north. Move the field so that the cluster is just out of view. Return, and then go north a little beyond your last journey, trying to use guide stars to find your way. In Cassiopeia, one does not travel far before encountering something of interest; a double star, a coloured star, an interesting asterism, or just a rich field of stars. Now travel south, going slowly and looking carefully about as you go. Go as far as you can without losing your way back to home base, namely M103. East and West are next. This is not an exercise in finding your way back home, but rather in trying to discover

something that perhaps no one else has really noted before. Go slowly, and you are guaranteed to have a rewarding journey. Once the four directions have been mastered, try moving on the diagonals, until you have covered a reasonable area surrounding the main object. I am not giving away any of my secret observing discoveries in this area, but I have a small treasure trove that I like to revisit now from time to time. Observers are only limited by their patience and their observing skills. Training oneself to look at everything in a field of view, especially at low power, is a skill that can be developed with practice. If you become bored with the activity, don't blame the stars! 15 minutes of slow and careful exploring will almost always prove rewarding.

Though I used M103 for my little sample excursion of wandering through the stars,

any bright object can be used; another Messier object, an NGC one, a bright star or double—the only restriction is your own imagination. I like using this observing method—the first of three methods I will discuss in this column—to de-stress and simply enjoy a beautiful and practically limitless collection of relatively unknown dark sky territory. Keep notes if you wish; I usually just go for the ride. No atlas or prepared notes are needed for this method of observing, just the ability to start somewhere with a bright deep sky object to use as a center point. In this way, if you do find something interesting it can always be found again. Enjoy the Autumn skies, and may they be clear ones!

M 103 (NGC 581): Size 6'; Mag. 7.4; Brightest star mag. 9. Approx. 40 stars at high power with 12" scope.



Image of M103 by Pete Barbaro from his Windsor backyard. Taken with his ORION 110ED Refractor, AP LPR filter, Nikon D5100 on a CG5 mount. 16 subframes of 150 seconds @ ISO400 were combined for this image after calibration with darks, flats and dark flats.

Proposed 2019 Council of the RASC - Windsor Centre

Executive

| | |
|-----------------------|----------------------|
| President | Mike Mastronardi |
| 1st Vice-President | Rick Marion |
| 2nd Vice-President | <i>Open Position</i> |
| Secretary | <i>Open Position</i> |
| Treasurer | Greg Mockler |
| National Council Rep. | Tom Sobocan |

Councilors

| | |
|-------------------------------|---------------------------|
| Steve Mastellotto | Paul Pratt |
| Paul Preney | Dr. Susan Sawyer-Beaulieu |
| Tom Sobocan | C. Joady Ulrich |
| Mahayarrahh Starr-Livingstone | |

Appointed Officers

| | |
|-----------------------------|--|
| Honorary President | Dr. William Baylis |
| Past-President | Randy Groundwater |
| Alt. National Council Rep | <i>Open Position</i> |
| Librarian | <i>Open Position</i> |
| Recording Secretary | <i>Open Position</i> |
| Public Education Director | Mahayarrahh Starr-Livingstone |
| Public Relations Director | <i>Open Position/2nd-VP</i> |
| Directors of Observing | Steve Mastellotto - 3x Nancy Ng - 3x Dr. Susan Sawyer-Beaulieu - 1x <i>Open Position - 2 spots for 1x</i> |
| Light Pollution Abatement | <i>Open Position</i> |
| Hallam Observatory Director | John Marn |
| Assistant Treasurer | Nancy Ng |
| Aurora Editor | Steve Mastellotto |
| Web Master | Steve Mastellotto |

IMPORTANT: Charitable Donations

We need your help - To break even in a typical year we need to raise about \$1,000 over our normal income sources. In the past we have had garage sales, winery events and other fund raisers. These events are a lot of work for a few people as it is difficult to get enough people involved in planning and staging an event. Alternately we are asking our members to look at making a charitable donation. If most members contributed a few dollars (even \$25 or \$50) we would raise more than what a special event generates. Any donations made before the end of the year will be eligible for a charitable donation receipt which can be used on your 2018 tax return.

If you have any questions, please contact Nancy Ng, your ear-nest treasurer.

Calendars



Mike Ethier Winter Observing
By Randy Groundwater

2019 RASC Windsor Centre Calendar
Member Astrophotos

RASC Windsor Centre - For the third year we have produced a calendar featuring the astrophotography of Windsor Centre members. Please see our Treasurer, Nancy Ng at the members meeting if you are interested in purchasing the 2019 calendar. We have taken delivery of a bulk order to help keep the price down which **will be \$20.00** (same as last year) which includes all postage, handling and taxes.



RASC National - Our Treasurer, Nancy Ng has taken the first round of orders for the 2019 RASC Calendar. **Price is \$20.00** which includes all shipping, handling and taxes since she received over 10 orders - this is the same price as last year and is substantially less than the \$26.22 (includes shipping, handling and taxes) by ordering directly from the National Office. If you are interested in a calendar please see Nancy at the October meeting so we can gauge the interest in making another order.

**RASC
Windsor Centre**

**Financial Statement
for year ending September 30, 2018**

| | Current | Last Year | Difference |
|---|------------------|------------------|-------------------|
| Balance Sheet | | | |
| Assets | | | |
| Cash | 7,944.56 | 7,340.83 | 603.73 |
| Building & equipment | 80,000.00 | 80,000.00 | - |
| | <u>87,944.56</u> | <u>87,340.83</u> | 603.73 |
| Liabilities | - | - | |
| Accumulated surplus, open | 87,340.83 | 84,536.29 | 2,804.54 |
| Earnings (loss) | 603.73 | 2,804.54 | - 2,200.81 |
| Accumulated surplus, close | <u>87,944.56</u> | <u>87,340.83</u> | 603.73 |
| Statement of Revenue & Expenses | | | |
| Revenue | | | |
| Revenue - Donations - receipted | 140.00 | 858.25 | - 718.25 |
| Revenue - Donations - not receipted | 956.00 | 1,745.50 | - 789.50 |
| Revenue - Sale of property or goods and services - scopes | - | - | - |
| Revenue - Membership fees - National | 2,784.60 | 2,879.54 | - 94.94 |
| Revenue - Membership fees - Obs fee | 944.00 | 1,130.00 | - 186.00 |
| Revenue - Fundraising - meetings | 226.85 | 182.50 | 44.35 |
| Revenue - Fundraising - 50/50 draws | 215.50 | 107.20 | 108.30 |
| Revenue - Fundraising - special events | 125.00 | 170.00 | - 45.00 |
| Revenue - Fundraising - pubs | 2,380.00 | 1,773.00 | 607.00 |
| Total revenue | <u>7,771.95</u> | <u>8,845.99</u> | - 1,074.04 |
| Expenses | | | |
| Expenses - Office supplies and expenses | 267.74 | - | 267.74 |
| Expenses - Occupancy costs - mtg rental | 765.00 | 765.00 | - |
| Expenses - Occupancy costs - obs rent | 500.00 | 500.00 | - |
| Expenses - Occupancy costs - obs utilities | 480.00 | 480.00 | - |
| Expenses - Occupancy costs - obs other | 2,701.76 | 2,640.59 | 61.17 |
| Expenses - Adv & promo | 567.22 | 226.00 | 341.22 |
| Expenses - Fundraising expenses - meetings | 431.60 | 232.33 | 199.27 |
| Expenses - Fundraising expenses - pubs | 1,245.40 | 1,145.53 | 99.87 |
| Expenses - Travel and vehicle | 117.50 | - | 117.50 |
| Expenses - Social | - | - | - |
| Expenses - Honoraria | 92.00 | 52.00 | 40.00 |
| Expenses - programs | - | - | - |
| Total expenses | <u>7,168.22</u> | <u>6,041.45</u> | 1,126.77 |
| Net Earnings | <u>603.73</u> | <u>2,804.54</u> | - 2,200.81 |

Highlights

- Net Earnings for the year approx. \$600; compared to earnings of about \$2,800 last year
- Revenue was down about \$1,074 compared to the previous year
 - o calendar sales increased by over \$600
 - o donations decreased by \$1,500 (about \$800 decrease from non-receipted donations; and \$700 from receipted)
 - o membership fees down about \$100
 - o observatory fees down \$186
 - o meeting and 50/50 up about \$150
- New or additional expenses this year included \$267 under office supplies for new cheques and stamps; \$230 for banners; \$115 for deck cleaning materials at the observatory ("obs other"); \$100 for calendars (more than offset by increased calendar sales); \$117 under travel for reimbursement of costs to attend the GA; and about \$200 more for meeting expenses
- We remain in good financial shape largely because of tremendous calendar sales; however we need to continue looking for additional sources of revenue as there is not really any room to cover unexpected expenses