



Autumn 2008
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Editor's Corner A great night for an astronomy meeting. Lots to think about.

We have finally reached the end of 2008, and as we look back, just over the Fall, there have been a lot of great meetings and the opportunity to meet other like-minded amateur astronomers.

If you missed out, in October, we had a visit from Dr. Gretchen Harris, who teaches astrophysics at the University of Waterloo. In November, we had Dr. Richard Epp from the Perimeter Institute. By the end of the meeting we had no choice but to continue the discussion at Zeke's—special relativity requires it!

Cari Gerow is our new Coordinator

for the International Year of Astronomy (IYA). Check the calendar on our website for activities in January.

Brady Johnson has been providing free seminars on astrophotography at KW Telescope. Recently, he invited Ron Brecher who got us into using Images Plus and Photoshop software.

We now have an official observing site at Conestoga Lake, thanks to the efforts of Chris Beckett and Wayne Joslin.

David Garner, Editor

The Executive for 2009

Meet Your 2009 Executive

by David Garner

With each December, we hold new elections for the executive offices of the KWRASC. Having held several positions in the executive myself, I know that it is a great deal of work, but also an excellent opportunity to hone ones organizational skills.

This year, we elected Wayne Joslin as our new President, Brian Hollander is our 1st Vice-President, Marvin Warkentin becomes our 2nd Vice-President, Peter Clarke is Treasurer, and Phil Lacasse is Secretary. All-in-all, a very promising group for another successful year!



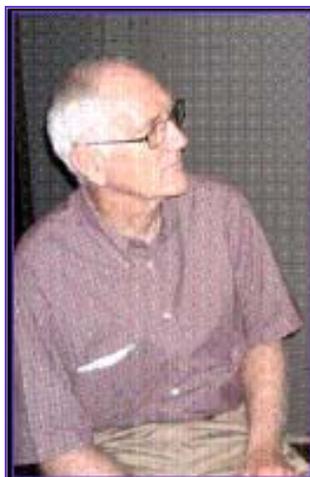
Brian Hollander, 1st VP, engineer and C++ programmer. Brian also looks after our website, and Star Gazing 101, among other things.



Peter Clarke, Treasurer. As an industrial lighting specialist, Peter has often helped out with our Light Pollution Abatement committee and our Fund Raising group and Star Gazing 101 and



Wayne Joslin, our new President, currently retired but always on the lookout for something to keep him out of trouble. Wayne has been a tremendous help with organizing a new observing site for us.



Marvin Warkentin, 2nd VP, financial advisor during the day. Now he has a night job with KW RASC.



Phil Lacasse, Secretary, Phil works for Bell and is looking forward to retirement this year. I think KW RASC will keep him busy. Phil is actively involved with Scouting and our Public Outreach group..

Guest Speakers: October 10th & November 14th

An Update on Galactic Astronomy



Dr. Gretchen Harris
University of Waterloo

Gretchen Harris came to our meeting on October 10th this last fall to give us an update on her current area of research. Gretchen does spectroscopic and photometric studies of globular clusters in the Galaxy and extragalactic systems. These globular clusters give her insights into the age and dynamics of the galaxy. Gretchen also gave us quite an overview of current studies of galactic rotation rates.

It is believed that rotation rates are not falling off as fast as they should from the centre of a galaxy. This leads astrophysicists to ideas of dark matter or other possible explanations for this strange behavior.

Thank you Gretchen!

A Primer on Relativity



Dr. Richard Epp, Perimeter Institute

Richard Epp came to visit on November 14th to give us the 'lite' view of relativity. He has a Masters degree in electrical engineering and a PhD degree in theoretical physics from the University of Manitoba, Canada, and has held postdoctoral research positions around the world working in general relativity: Einstein's theory of space, time and gravity. He has extensive outreach experience, having originated many of PI's outreach initiatives, and immensely enjoys introducing people of all ages to the mysteries and wonders of our amazing universe.

Richard introduced us to some basic ideas of length contraction and time dilation in space and how we might experience such phenomena.

We certainly enjoyed having him. Thanks Richard!

The International Year of Astronomy

2009 : 400 Years After Galileo

by *Cari Gerow*



Cari Gerow, 2009 IYA Coordinator

I am very fortunate to have a wonderful group of people to work closely with over the upcoming year. The IYA committee, or should I say my lifelines, Brady Johnson, Brian Gerow, Brian Hollander, Chris Beckett, Graeme Stemp-Morlock, Mike Gibbons, Peter Clarke and the Executive are a dynamic group. Their wealth of knowledge, experience and creativity will make 2009 a year we won't soon forget!

KW-RASC's official IYA 2009 kick off event will be held in conjunction with the University of Waterloo on Saturday January 17th 2009. Dr. David Gilbank has put together a wonderful evening of observing on campus and short talks relating to Galileo, IYA and Observing.

Throughout the colder months of February and March we can look forward to a lecture given by Chris Beckett at UW and an exciting March Break Children's day at KW-Telescope! These events will hopefully foster interest among the younger minds in our community.

In April we can enjoy a plethora of spring colours right inside KW-Telescope! The Astro-Photography Gala will host a wonderful collection of photographs and sketches from a variety of artists.

Get on your outdoor gear from May to October! We'll be heading outside for Public Star Parties at Waterloo Park in May and September, an Observing Clinic at Conestoga Lake in June, Star Fest in August, and the Oktoberfest Parade in October. Prosit!

As a Harry Potter fan, I'm especially excited for the July Harry Potter Children's Day at KW-Telescope. We'll be showing the children how their favourite Harry Potter characters were named after the stars. Sirius Black and his sister Bellatrix and of course Draco Malfoy will take on a whole different meaning in these young minds. Maybe Astronomy is as cool as Harry Potter!

This will be an excellent way for us to promote KW-RASC and IYA events throughout the year. IYA 2009 is going to be an exciting, fun filled year and I'm looking forward to it. Details for each event will be posted on our web-site (thanks to Brian Hollander) as they become available. Seasons Greetings to you and your loved ones and see you in IYA 2009!

Cari Gerow

Public Outreach News

A Star Party for Empire, Holy Rosary Catholic, Westvale, and Abraham Erb Public Schools

by *George Peer*



Despite terrible weather this fall and light pollution from schools, Outreach members treated more than 300 grade 6 students to beautiful views of the Moon, Jupiter (and 4 largest moons), Venus, double stars and a few deep sky objects.

Four star parties were carried out at the following schools: Empire P.S. (Oct. 9), Holy Rosary Catholic (Oct. 22), Abraham Erb (Oct. 23) and Westvale P.S. (Nov. 4).

The kids at Empire enjoyed close-ups of the gibbous Moon and Jupiter. Sky observations were interrupted by a flying saucer in the northeast sky! Some teenagers decided to skip homework and have some fun with a battery-powered frisbee!

The students were particularly impressed spotting Venus and Jupiter. Abraham Erb is an excellent site for young stargazers because the soccer field is wide open and scope owners are not blocked by trees. Modern school lighting minimized light pollution.

The Nov. 4 Westvale star party required an early start (5:30) because of the return of Standard time. Venus, Jupiter and the first quarter Moon made an interesting threesome. There were numerous queries on how to use a planisphere.

I carried out lectures at all four schools preceding the evening outings except at Abraham Erb. Here, the teacher specifically requested the star party be held first. In retrospect, it appears to have been a wise decision as students seemed particularly keen in the classroom.

Thanks to the tireless efforts of Ron Bronson, John Body, Steve Holmes, Duncan Class, Peter Clarke, Maryanne Weiler, Paul Schumacher, Will Stoltz, Clark Muir and Rick Derks, kids saw many fantastic night sky objects for the first time using scopes as well as binoculars.

The list of sighted objects includes Summer Triangle, Northern Cross, Big Dipper, Polaris, Cassiopeia, M13, M31, M57, Perseus Double Cluster, E. T. Cluster, Alcor/Mizar, Alberio, Lyra Double-Double Cluster and Arcturus.

A tip of the hat goes to Brian Hollander and Ognian Kabranov for their tireless efforts launching and maintaining the Youth Astronomy web page.

In summary, 2008 was a good year for the Outreach committee. The Waterloo Region District School Board sent out more than 100 of our flyers to three levels of schools in Waterloo and Kitchener. New flyers will be sent out to the Waterloo Catholic District School Board. Consequently, 2009 is expected to be a busy year!

George Peer

Astrophotography Seminar at KW Telescope

An Introduction to Image Calibration



Dr. Ron Brecher

Ron Brecher is a local long-time visual and sketching astronomer who lives in Guelph. He has been imaging the night sky since August 2006 and was the winner of the Deep Sky category of the KW RASC's 2006 and 2007 astrophotography contests, and the Lunar/Solar/Planetary category in 2007.

Learning astrophotography can be a very challenging and time consuming skill to master, unless of course, you attend some of the seminars at KW Telescope .

(<http://www.kwtelescope.com>)

Brady Johnson and Steve Holmes of KW Telescope hold them occasionally through the year. Just check their website to see when the next one is being held.

The latest seminar was given by Ron Brecher. As described by Ron, digital cameras and cooled CCD cameras can take amazing images of the night sky. But while they are collecting the light data that you want and need to make the image, unwanted data – or noise – also gets collected. “Calibration” is a process for bringing out the details you want to show while suppressing the degrading effects of noise and optical aberrations.

The talk given by Ron explained how to use “calibration” and pre-processing techniques to separate the good data from the bad and get your image ready for more sophisticated image processing techniques. We learned about setting white points, blackpoints, stretching and the importance of constantly watching the histogram (a very useful way that most image processing programs can present image data).



Brady Johnson of KW Telescope



Steve Holmes of KW Telescope

Thanks Ron!

[Great Photos](#)

The Rosette Nebula by Ron Brecher

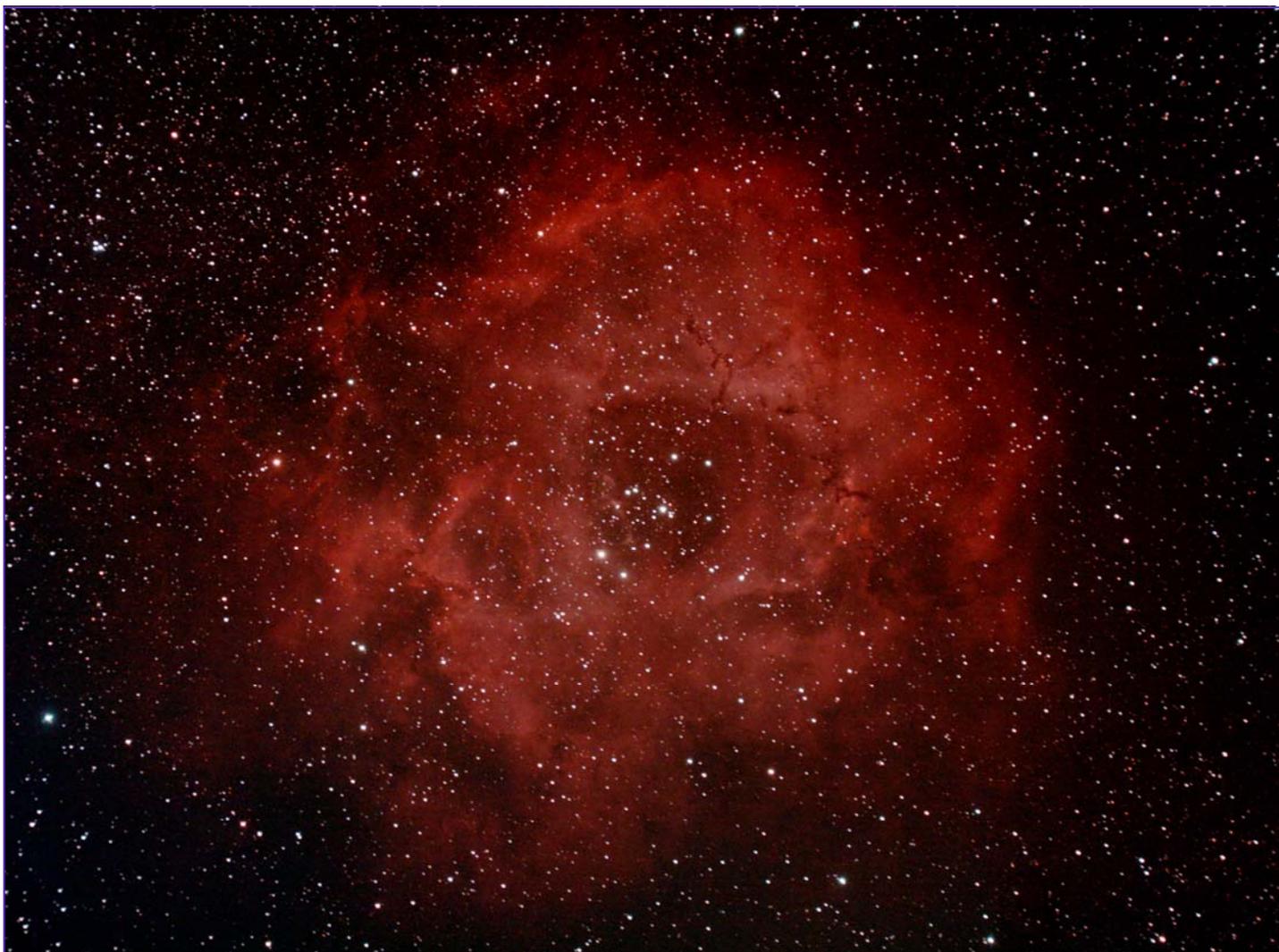
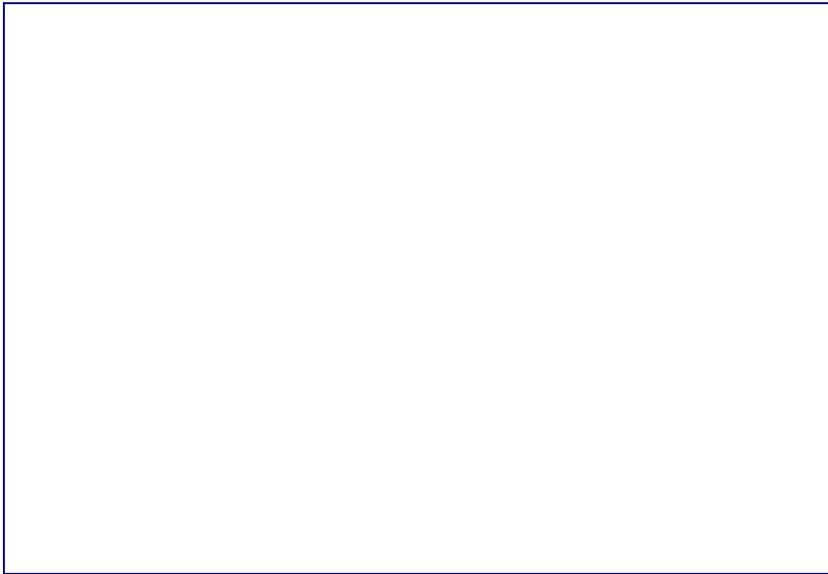


Image courtesy of Ron Brecher, KWRASC; 51 x 90 sec unguided exposures using a modified Canon Digital Rebel XT, 105 mm f/6 refractor and Hutech LPS filter. Acquired and processed with Images Plus.

The Rosette Nebula contains, among other things, an H II (ionized) region often favoured by astrophotographers. It is a beautiful emission nebula, somewhat round in shape, hollowed out in the centre, and located in the constellation Monoceros, just 13 degrees to the east of Orion. Although it has low surface brightness, with an apparent magnitude of 9.0, it is still visible with smaller telescopes. It helps to have a wide field of view, since the Rosette is 1.3° across. A narrow-band nebula filter or O III filter can also be beneficial on this object, particularly in less-than-ideal skies. The Rosette Nebula can be found 5200 ly away at RA: $06^{\text{h}} 33^{\text{m}} 45^{\text{s}}$ and Dec: $+04^\circ 59' 54''$.

Connect the dots and name this constellation

If you need a hint, click on the image below.



Constellation photos courtesy of Jim Kaler, University of Illinois

To see the answer, click on the blue button below.



If you would like to contribute to the Pulsar, just send in your article and pictures to the Editor. Use doc format please.

email: David Garner, jusloel@wightman.ca



To become a member
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519-763-0184 or send e-mail to
peterclarke@bellnet.ca

RASC K-W Centre

<http://kw.rasc.ca>

K-W RASC Executive

President : Wayne Joslin

Past President : Paul Schumacher

1st Vice : Brian Hollander

2nd Vice : Marvin Warkentin

Treasurer : Peter Clarke

Secretary : Phil Lacasse

The KW Centre of the Royal Astronomical Society of Canada usually meets on the second Friday of every month excluding July and August. Meetings are held in the Science building of Wilfrid Laurier University in Waterloo, Ontario. Everyone is welcome.

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