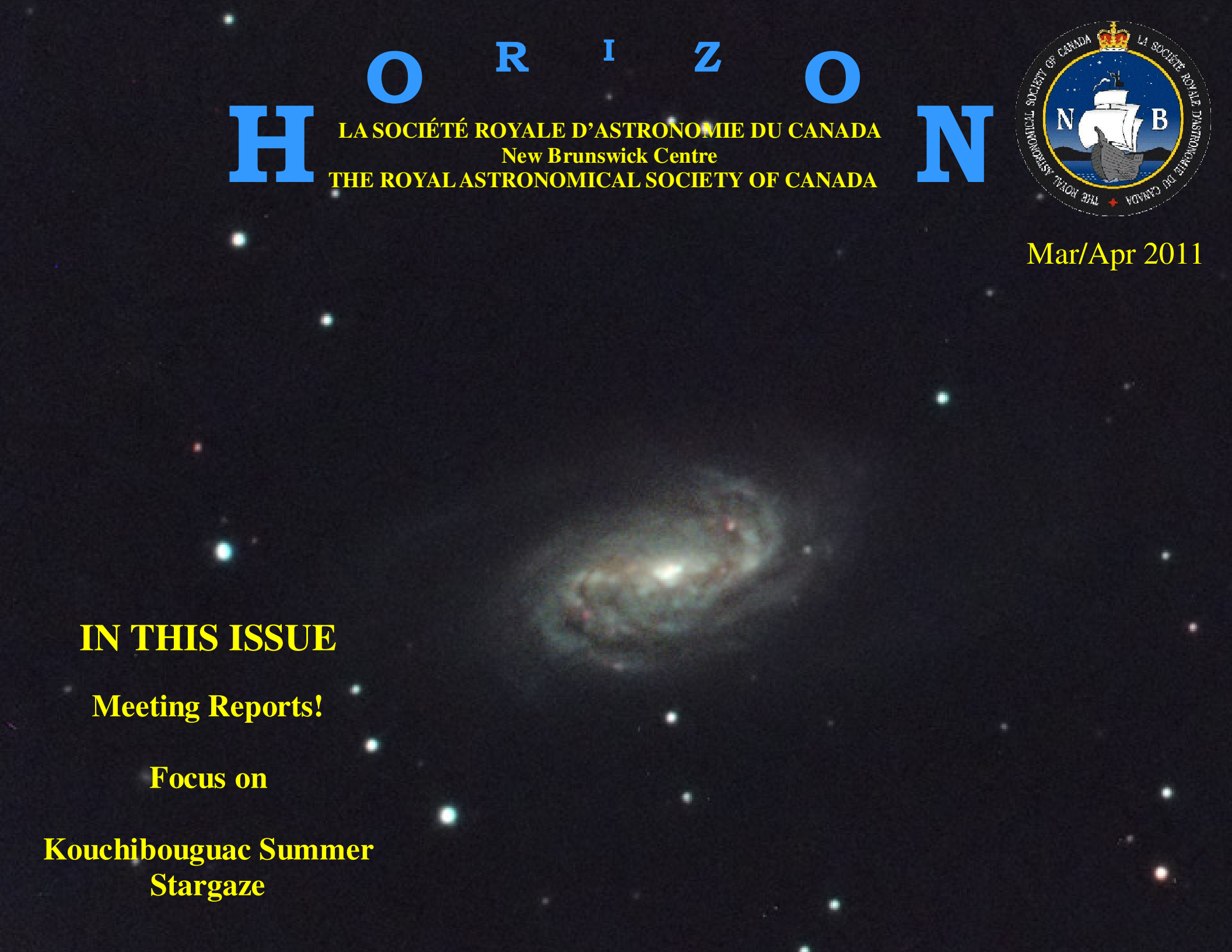
HORIZON

LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
New Brunswick Centre
THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Mar/Apr 2011



IN THIS ISSUE

Meeting Reports!

Focus on

Kouchibouguac Summer Stargaze

EVENT HORIZON
Astronomy in New Brunswick

SRAC/RASC Centre du NB Centre
Réunion / Meetings

March Astronomy Meeting

When: March 19, 2011 1:00pm

Where: Saint John ,UNB SJ
Ganong Hall
Room 115

April Astronomy Meeting

When: April 16, 2011 1:00pm

Where: UNB Fredericton
Forestry and Geology Building
2 Bailey Drive
Room 203

Summer Events to Note!

Kouchibouguac Summer Stargaze
When: May **20-22**
Where: See details on page 11.

More events to come! See the next issue of Horizon as events are yet to be confirmed.

RASC NB Local Unit
Réunion / Meetings

William Brydone-Jack Unit (Fredericton)

A local group of members meet in Fredericton monthly for meetings and observing.

When: March 8, 2011 at 7:00pm
April 12, 2011 at 7:00pm

Where: Fredericton, UNB Campus
2 Bailey Drive, Room 203

www.frederictonastronomy.ca

Saint John Astronomy Club

Meetings consist of talks on constellations, the solar system and other astronomical topics, as well as Show & Tell, observing reports and Ask the Astronomer.

When: March 5, 2010 at 2:15pm
April 2, 2010 at 2:15pm
April 28, 2010 at 2:15pm

Where: SJ Free Public Library at Market Square

Inside this issue :

Cover Photo
By Tim Doucette

NGC 2903 taken on March 13,2010. Taken with a C9.25 and QHY8 camera. Total exposure 60min. NGC 2903 is well placed in the spring sky for observing and is often overlooked.

PRESIDENTS REPORT
by Curt Nason

Spring is a busy season for public outreach, a chance to share our knowledge and love of the night sky. Schools are particularly interested in having guest speakers for topics in which the teachers have little experience. Astronomy and space are relatively new additions to the curricula for Grades 6 and 9. The teachers can follow what is provided in the books, but most do not have the practical experience of "having been there" that we have as amateur astronomers. We can communicate what Saturn and the Moon really look like through a telescope. Better yet, after whetting their appetites in a classroom, we can coax the teachers into arranging an observing session, either daytime for solar or during an evening. Do you know any teachers for Grades 6 and 9? Ask them if they would like to have a guest speaker on astronomy. If you aren't comfortable in providing the service, contact a fellow RASCal in your area or one of the Centre Council members on the last page of this newsletter.

The various Scouting troops are another group who are often seeking assistance with the astronomy section of their programs. Brownies, Guides, Beaver, Cubs and the rest have Space Badges or weekend outings. The badge criteria for Cubs and Guides are listed on the RASC Web sire (www.rasc.ca) under Education -> Other Resources. The astronomy curricula for schools in the various provinces are also available at that site. Covering some or all of the badge criteria during a meeting, then supplementing it with an observing session at the end of the meeting, is a great way to get them inspired to complete their badge requirements.

Earth Hour has become another venue for astronomy outreach and for educating people on light pollution issues. If you do public observing in an area that will have the lights turned off from 20:30 to 21:30, people will see for themselves how many more stars are visible with the lights out. Showing them the treasures of the night sky, either naked eye or through a telescope, will get them thinking about how they manage lighting in their own areas. It won't hurt to do a little research first, so check out the Light Pollution section of the RASC Web site. This year, Earth Hour is on March 26, and events are planned in Fredericton, Moncton and St. Andrews. It is not too late to organize a presentation or observing session, or just set up a telescope in a public area as twilight fades.

Astronomy Day 2011 is May 7. This is usually a time when we showcase our hobby in city markets and malls, and take advantage of clear skies whenever possible to provide solar observing by day and planetary after sunset. Astronomy Day is always scheduled near the First Quarter Moon. Some amateur astronomers tend to ignore the Moon, but it always gets the loudest Wows at public observing sessions. Saturn will also be well placed for evening observing this year. Don't limit yourself to Astronomy Day, set up your scope on any clear evening during Astronomy Week, which runs May 2 -8.

In addition to the information on the RASC Website, other materials are available to enhance our public outreach efforts. The Centre has a recently replenished supply of Star Finders, in English or French, and we still have a supply of astronomy cards from IYA 2009. Some of us have PowerPoint presentations for school and Scouting programs that we are willing to share. If you have a need for any of these, please contact me.

If you do a public outreach event, please take the time to record this on the RASC Web site, via the link on the lower left corner of the Home page. The form will ask for your name and Centre, the type of event, date and location, the num-

ber of participants and volunteers, and how many Star Finders were used. If we run short of Star Finders, we can continue to receive them for the cost of shipping if we show they are being used for outreach through this reporting method. If you do not feel comfortable making a report, send the information to Don Kelly, Education Committee Chair, or to me. And please send the details of your event to Don so that he can include it in the next issue of Horizon.

Public outreach is an important goal of the RASC. You will find the enthusiasm of others seeing the Moon or a planet for the first time through your telescope is infectious, and once you catch the bug it is difficult to stop. As you inspire them, they will inspire you. This is where the future members of our Centre will be found.

MEETING REPORT
September 2010 by June MacDonald

Curt did a "What's Up" for September, the Solar equinox is Sept. 23. This evening Jupiter is in the east and will be visible for the next few months. The best view of Mercury is in the early morning. On September 16 there will be a good opportunity to see the "straight wall" on the moon. He mentioned on September 18, there will be a world-wide effort to observe the moon, as part of a "Beyond IYA" project. September 23 is the Harvest Moon and October 7 is the new moon. Two days after the first quarter moon is the best time to see Clavius Crater on the moon – it is 225 km wide and 3.5 km deep. Venus is low in the west and will be at its greatest brilliance September 23 but be gone by October 29. Mars and Saturn will be gone in a few months and September 30 respectively. Jupiter will be at opposition September 21 and almost as big as it gets - nearly 50 arc seconds –September 21, the best since 1963. The Red Spot seems easier to see without the southern belt. You can do a search for Comet 103P/Hartley, mag 11.6-8.5 at it's best.

For observing reports Ted said he observed comet Hartley and used a comet filter, which worked well with this comet. It really darkened the sky around it so he could pick it out more easily. Don saw an Iridium flare around mag 4 under Polaris. Jackie showed a video of Perseid meteor shower in China & an animation of the construction of the ISS – much speeded up, of course. Paul showed the website of the "International Meteor Organization and showed how the meteor sightings are documented.

Show and Tell had Emma showing the group the lovely photograph of the "RASC butter tarts" (Emma, Mandy and June) with a friend from Ontario at the GA. Jackie showed 2 scopes for sale. Paul showed some of his photos of lightening, 22&1/2 ° halo around the Sun, with Kathryn his daughter as the photographic assistant - letting Paul use her head to block the Sun's light to get a better picture. He also showed a few pictures of Mt. Carleton observing weekend, including one with the premier Shawn Graham, who happened to be up there and said he had a telescope himself, although he didn't get to use it much. Paul also had some pictures of a trip to N.S. with his family. Beautiful vistas and dark skies – he had a beautiful photo of the Milky Way. He showed a video of a rocket launch from Petersville, where the biggest rocket to ever participate took flight and had great video footage from the rocket itself.

After the break, Mike Powell gave a presentation of how he built his roll-off-roof observatory in his backyard in Milledgeville, with lots of pictures of the construction process. A few problems easily fixed, approximately a year later and presto-chango, an observatory is born. Great job Mike.

The meeting concluded and everyone hightailed it to Romano's for supper & talk.

MEETING REPORT
Ocotober 2010 by June MacDonald

Peter welcomed everyone to the Miramichi and did a general astronomy news and reviews. An interesting discovery that has hit the news lately was the new humungous star astronomers found in the Tarantula Nebula, which is 265 times the size of our Sun – it is the most luminous star ever. Astronomers have also discovered there may be habitable environments beneath the surface of Mars. Scientists found carbonate minerals with hydrated silicate minerals, likely of hydrothermal origin, which they feel points strongly to the possibility of "life" on the red planet. He also mentioned the close call Earth had again with an asteroid. Asteroid 2010 TD54 passed Earth with just 46,000 km to spare. It was 14 magnitude. You can read more about it on the "Astronomy Now" website. NASA's Deep Impact satellite will make a fly-by of comet 103P/Hartley 2. Astronomers found a Supernova that was smothered by its own dust. A "Goldilocks World" was discovered in Gliese 58 system. This is a planet that could sustain life, although there is now some debate over it's existence.

Curt did a "What's Up" for the month. He mentioned that we were "celebrating" Fall Astronomy Day together, as it is today. There are 3 Sun spots now to be seen and it will only get better. Check out www.spaceweather.com for updates. It is a great time to see Jupiter for the ext few months, Venus can be seen before 7pm, Uranus is just above Jupiter. It is a "Hunter's Moon" for the full Moon on October 22. The Moon will be near M35 October 27 around 8pm. On November 21, the full Moon is known as a "Beaver Moon". He showed pictures of the straight wall on the Moon and Copernicus crater. He explained the formation and structure of the crater which is 93 km wide and 3.8 km deep. It has steep, terraced walls & the photo was considered at the time to be "one of the greatest pictures of the 20th century". Mars in superior conjunction October 17, Venus – good morning apparition as ecliptic is high. We will be looking down on the northern part of Saturn's rings for the next 15yrs. Jupiter's Red Spot is easier to see without the southern belt and there's lots of moon action to be seen. Comet Hartley (103P/Hartley at mag 4.6 has a large, diffuse, 1 degree coma and will be at it's closest October 20 at 15 million miles. On the 31st, it will be above and slightly to the left of Betelgeuse.

Observing Reports: There were a few people who managed to get out to check what was up. Tim found it difficult to search for comet Hartley without a "go to" scope. On "Observing the Moon Night", Emma, Tim and Yvon were kept busy by the good crowd turnout. In Saint John members were out at 2 locations – Peter and Chris Curwin were at Wal-Mart and Curt and Dave Couture worked the crowd at the Millidgeville Superstore. Adrien finished his EU certificate and is doing 2 talks this month and in November at Seawood School in Saint John.

For "Show and Tell", Ted showed everyone the new addition to our library – a DVD "Journey to the Stars", narrated by Whoopi Goldberg. This is suitable for grades 3-12. There is a brochure with it that talks about various projects and activities that kids can do a s a group or individually. Chris mentioned that Transport Canada is being very proactive regarding education on appropriate and safe use of green laser pointers. You just can't have people pointing and waving them around in airspace occupied by aircraft. It could be any of us up there! Paul showed some of his latest photos – Veil Nebula, dark nebulae Cygnus B145, Aquila & Barnard's E cloud, as well as photos of the Cocoon Nebula & M31. Peter showed his DVD "Wonders of the Solar System" a package of 3 DVDs. Curt got a "new" book (surprise!) off E-Bay "Quest for Comets " and it was signed "for Jan with best

wishes David Levy" in July 1994.

Ted gave a talk about Perseus, whose story read like a soap opera. "Tener Quod Turbatus" loosely translates to "Young & Restless". There's more to the story than this but essentially Acrus was unable to produce a son, but had a daughter who he locked in a dungeon to keep her from becoming pregnant, because a sear had told him his grandson would kill him. Zeus, the wily devil, came down in the form of golden rain, had his way with the daughter & she became pregnant. Acrus tossed them both out to sea on a raft. Poseidon sent the raft to shore, they were rescued by Dictus who took them in as his own & you can imagine the rest. Perseus did kill his grandfather in the end fulfilling the prophecy. In Perseus there is a beautiful double cluster that canbe seen naked eye – 200 Ly apart, 4.3 & 4.4 mag & 70 Ly in size.M34 is open cluster which at 5.5 mag is a naked eye object & at 30 arc min. is the size of the full moon. NGC 1528 is not spectacular but is nice to view in the eyepiece. A few other deep sky objects are NGC 1023, a galaxy at 9.5, M76 – the "little dumbell", not as round, more rectangular & one of the toughest Messiers to find. It also has one of the hottest stars known at 3000 Kelvin. Algol, the Demon Star is a binary at 2.3 mag & drops to 3.4 mag over a 3 hr. period.

June gave a talk on one of her favorite nebula the "Heart (& Soul) Nebula. It is so -named because it is shaped somewhat like a heart. The "Heart" is IC 1805 & the "Soul" is IC 1848 & is in the vicinity of Cassiopeia, in the Perseus arm of the Milky Way galaxy, which is a busy star-forming region of the galaxy. In the center of the "Heart", is a "newborn" star cluster called Melotte 15, 15 Ly across. Two other star clusters connected with this nebula are open clusters called h Persei NGC 869 & Chi Persei NGC 884 – called the "sword handle clusters" due to their apparent location in Perseus. There are 2 galaxies nearby – the Maffei galaxies – Maffei 1 a giant elliptical & Maffei 2 a spiral - each approximately 15,000 Ly across. Astronomers used infrared light to peer into the nebula & discover its structures. There are approximately 17 photos of the Heart & Soul nebula in APOD archives, the last one being last month on Oct. 14, showing the Heart, the Persei clusters & comet Hartley. A beautiful photo.

It was a great meeting, even though the numbers were down. Tim mentioned about doing a video stream to the Internet for those who can't get to meetings. He will look into the cost & logistics of this & present at the next business meeting, which would be January.

Focus On Guy Arnold

By Curt Nason and Guy Arnold

When and how did you develop an interest in astronomy?

The first time an uncle let me look through his binoculars, way back when. Over 50 years ago.

What do you find is the best resource for learning about astronomy?

Interactions with living amateur astronomers (RASC, etc.), but mainly *The Great Courses'* 96 DVD 30-minute lectures *UNDERSTANDING THE UNIVERSE: An Introduction to Astronomy, 2nd Edition, by Professor Alex Filippenko.*

What should we do to increase membership in our Centre?

Three things: Advertise, advertise, advertise.

What is your favourite observing target, and why?

The Moon. It is the closest astronomical object. I have weak eyesight.

(cont on page 6)

(cont from page 6)

What would you like to see in a mentor program within our Centre?

Accessibility: phone and email address. Knowledge: general experience and hands-on know-how. Caring: an evaluation of the repercussions of one's advice.

If you were given $1000 for astronomy equipment, what would you buy?

A MallinCam. The model, out of three current ones, most appropriate for my six-inch Celestron GoTo.

Collective Nouns: As Heard On the RASC Email List

What do you call a group of Astronomers?

A Magnification of Astronomers? A Vaulted Sky of Astronomers? My suggestion is a cloud of astronomers.

Neil Slater

I always thought we were more of a focus group.

Curt Nason

Many suggested Cluster and or Nebulae.

What would you suggest? Email the editor!

RASC NB LIBRARY BOOKS

Available to members in good standing.

A Walk Through the Heavens
Milton D. Heifetz and Wil Tirion
A guide to stars and constellations and their legends

Agenda Celeste editor Damien Lemay
Douze mois de decouverte du ciel au Quebec, mai 2004 - avril 2005
Softcover

Atlas of the Moon by Antonin Rukl
Hardcover , 224 pages

Discovering the Universe
Neil F. Comins and William J. Kaufmann III, 480 Pages, with CD

Explorons l'astronomie by Mary Lou Whitehorne (Skyways, en français)

Looking Up by R. Peter Broughton
A History of the Royal Astronomy of Canada, Hard Cover , 288 pages

Many Moons by Diana Brueton
The Myth and Magic, Fact and Fantasy of our Nearest Heavenly Body - 256 pages, soft cover

Seeing in the Dark by Timothy Ferris
How Backyard Stargazers are Probing Deep Space and Guarding Earth from Interplanetary Peril
Hardcover, 379 pages

Sky Atlas Companion
Softcover, 281 pages
Descriptions and data for all 2700 deep sky objects Atlas 2000. Second edition. Softcover

Skyways by Mary Lou Whitehorne
Astronomy Handbook for Teachers
Softcover, 114 pages

The Meteorites of Alberta by Anthony J. Whyte
Softcover, 290 pages
Descriptions and stories about Alberta Meteorite Falls, First edition.

Meteorites on Earth Clue In The Solar System

by Guy Arnold

At the February 19, 2011 RASC-NB Meeting held at the Faculté d'Ingénirie de l'Université du Nouveau-Brunswick, Campus de Moncton, Daniel Leblanc's highly documented Presentation ***Looking for Meteorites*** solved a 20 + years mystery for me.

Danny projected photos of chondrites showing appearances of magma processing – *usually associated with volcanism* – and nearly pure iron nuggets – *that conventional wisdom would presume* ***to have come*** *from planet cores.* Not so! for both, he said at Question Period, and at Break time.

These two discoveries reminded me of an old hypothesis, *according to which a fifth Earthlike planet would have orbited between Mars and Jupiter*, way back when. Its demise would have created the current asteroid belt.

Located between the four rocky planets (*Mercury, Venus, Earth and Mars)* and the four gas giants (*Jupiter, Saturn, Uranus and Neptune),* this intermediary Sun orbiting zone is populated by billions of small bodies, collectively making up the Asteroid belt. Years passed, and the hypothesis ceased to be making the astronomical news. I never found out why, nor what replaced it.

Putting together Danny's and Astronomy professor Curt Nason's information at the following restaurant dinner, I get the explanation.
Current theory holds that four to six planetesimals (*smaller planets*) did orbit within that zone, way back when.

1. Given several billions years, planetesimals' weaker gravity did eventually attract most iron atoms to concentrate into forming iron cores.

2. The breakups of these small planets probably resulted from collisions, explaining away volcanism like searing heat traces observed on some chondrites.

Sleuthing / Speculating
One conjectures the iron meteorites do mass less than the weight expected for similar sized iron lumps coming from Earth's core. Bound to intrigue geologists, and prod them to suspect the past existence of several planetesimals, as opposed to only one, more massive hypothetical planet.

But I did not get to ask THAT question …

Solar System Background
We knew about four Sun's orbital zones - the four rocky planets, the Asteroid Belt, the four gas giants and the Kuiper Belt. http://en.wikipedia.org/wiki/Kuiper_belt
Just like Alexandre Dumas' fictional characters **The Three Musketeers** turned into four with the arrival of young D'Artagnan, the number of Solar System orbital zones increased to five with the 1950's discovery of the very real outer system's Oort Cloud, estimated to contain some six trillion objects. http://www.solarviews.com/eng/oort.htm

Ill-defined in its outer border, the Oort Cloud is thought to share / swap bodies with passing objects and with our closest neighbour, Proxima Centauri.
The hypothesis suggests both stars' extremely weak gravitational effects in that zone – *midway between the 4.2 light years separation* – would play tug-of-war on bodies whose elongated orbits occasionally bring them too close to the edge.

Beating The Odds
This hypothesis fires up the imagination.
What if some previously Centauri held small body careened all the way down the Sun's various orbital zones unscathed, and eventually landed on Earth?
What if it landed on New Brunswick soil,

in an area patrolled by Daniel Leblanc, during one of his productive Walks-For-Health?

What if said hypothetical visitor from the stars was shallowly buried, close enough to the surface to be detected by Danny's hand-held sensor?

Impossible odds, you say? Indeed. Impossible odds as well are that the Universe came to exist, that life was created, and that intelligence appeared and questioned Nature.

Impossible odds - that were beaten. Given Time by the billions of years, the Universe has already produced wonders.
In that context, calculating the odds Vegas style would be meaningless. Easier to just bet on Danny.

Meteorite Hunting Does Lead Right Up There, To Astronomy Subjects In The Sky

EDITORS REPORT
by Paul Gray

Well the feedback on the new layout was positive so for now I will be sticking with it!

I do not have much to report other then please send me your observations, photos, stories or funnies for the newsletter. It is only as good as you make it!

MEETING REPORT
November 2010 by June MacDonald

Peter welcomed everyone who braved the inclement weather, to our center's Annual Meeting. This is our 11th A.M. since RASC N.B. was first established in 2000. Peter gave a review of RASC National's strategic plan.

Curt did a "What's Up" for Nov./Dec. including some Christmas themed observing objects. The sunspots are getting busier; it is a good time to take the opportunity for observing the increase in the Sun's activity. In Nov., you'll see the Ring nebula in Lyra & the Dumbbell in Vulpecula; Pegasus is getting higher in the sky; Jupiter is slightly above & left of Aquarius; you'll see Saturn & Venus in the morning sky; Venus will be at it's greatest brilliance Dec. 4, Mars will be seen on Dec. 6 below a 1 day old Moon & near Mercury Dec. 13; a whitish plume has been seen in Jupiter's southern belt area & astronomers feel this heralds the beginning of the return of the southern belt. Uranus is visible just above Jupiter & Neptune is just above "Mu" Capricornus; comet Hartley (103P/Hartley) mag. 5.7 (ranging now 5.9-8.1) getting more difficult to see in the late evening; comet C/2010 V1 Ikeya-Murakami at mag 8, can be seen naked eye. Geminids meteor shower will peak Dec. 14 at 7am, the Ursids will peak Dec. 22 at 3pm & the Quadratids will be on Jan. ¾ with the new Moon. He mentioned some asterisms: a "Golf Club" in Perseus, the "Cheshire Cat" in Auriga below M38, with the "Leaping Minnow" below the "Cat" & the "Beach Umbrella & Beach Chair" in Orion. Curt reviewed the RASC & local club events for December & reminded people of the Dec. meeting location in Fredericton.

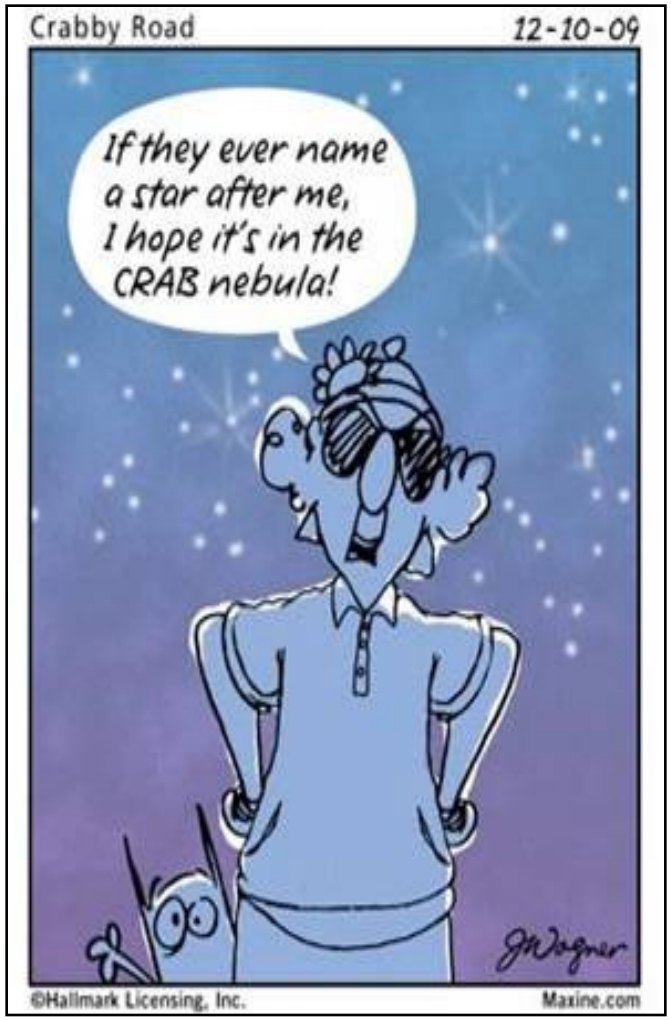
Mary Lou Whitehorne, who is National President, was our guest speaker & gave a presentation titled "About Stars". She discussed the types of stars, the anatomy of a star & their lifespan. A small sampling of her talk: She began by comparing the luminous blue variable star – the "Pistol Star" near the heart of the Milky Way with our Sun. It is 110 times the Sun's mass, with 10 million times more energy & brilliancy. A star consists of 6 layers – core (where fusion happens), radiative zone, convective zone, photosphere (visible surface) chromosphere (above the photosphere) & the atmosphere (corona). The vast majority of stars in the Milky Way (95%) are between ½ & 1/10 solar mass. The internal structure of a star varies with its mass – changing the characteristics of the star. She discussed the differences of M,G & O stars. Most stars are M class at 1/10 solar mass, G stars are 1

solar mass with medium core, big radiative zone & small convection zone; O stars are 60 solar masses, with a small core & convective layer then radiative layer. These stars "shine themselves to death". The Earth is embedded in the Sun's atmosphere; heliopause is where the solar wind peters out & can no longer push against cosmic rays. One of the biggest & brightest known stars is LBV 1806 at 150 solar masses & 5 million times brighter than the Sun. Stars are spherical due to hydrostatic equilibrium – outward pressure vs inward gravity. If stars spin very fast, they flatten out at the top & bottom. The bigger a star is, the hotter it is & the faster it consumes its fuel. With upgrades to the HST, we can see the beginnings of star birth. You can see on the surface of stars ECG's – evaporating gaseous globules. The stellar winds are very strong – dense opaque gas, inside of which are new forming stars; proplyds are new stars with embryonic solar systems around them. Herbig-Haro objects are jets of material erupting from a new star. There was much more information making it a very interesting & informative presentation.

Marc Arsenault spoke about the new website, saying the content was going to consist of information driven by content received from the membership. It would contain events/activities, meetings, news, President's message, library, resources, special project reports, executive contact information (Dave Lane in Halifax at St. Mary's University is in charge of the functionality of the e-mail contact info), links to National, etc. & soon to be added will be an icon for Facebook RASC connection as well as a join button.

Tim gave a talk on his trip to David Levy's observatory "Desert Stars from Las Vegas to Tucson". He & Andrea visited Las Vegas (wild, busy & bright – not many stars to be seen from "the Strip"!) Grand Canyon (grand & beautiful) Kitt Peak observatories (they had a grand tour & had views of the countryside from the top of one of the observatories) & David's Jarnac observatory where they took a photo of comet Hartley & enjoyed a lovely visit with the Levy's. It was a trip of a lifetime.

We had the annual raffle draw for an 8inch Orion telescope which was won by Emma MacPhee, who was promptly cajoled to sell it to Roger Pitre! There were many door prizes given out – almost everyone in the room received a treat. During break time, people had an opportunity to mix & mingle & talk about, what else – things astronomical. Before the meeting itself, whoever had signed up for lunch went to Curt's close by & enjoyed a lovely meal provided by Marc & conversation provided by everyone. After the meeting, many of the group, including Mary Lou, went to the Ale House downtown for supper & more conversation. Inspite of the snow & rain it was a wonderful day, a great meeting with interesting topics & conversation among our RASC family.



Celebrating 100 years of Parks Canada

Kouchibouguac Summer Stargaze, Kouchibouquac National Park

May 20-22/2011

Join us and discover the Universe!

Astronomers will have various telescopes and binoculars available to view night sky objects such as the planet Saturn, craters and ancient lava sea beds on the waning gibbous moon, distant galaxies, star clusters, nebulae, etc., as well as our own Sun with specially fitted telescopes. Our own Sun could offer views of sunspots, solar flares, etc. Also learn to identify and view many major constellations. All viewing sessions are weather dependant.

There will also there will be entertaining "What's Up" PowerPoint presentations, as well as a "Looking for Meteorites" presentation in both official languages. The PowerPoint presentations are not weather dependant.

Schedule of activities

Friday May 20
12 noon – 3:00 pm: Solar observing
8:00 pm – 8:45 pm: "Looking for Meteorites"
8:45 pm - 9:30 pm: "What's Up"
9:45 pm. – 1:00 am: Telescope and binocular observing session.

Saturday May 21
10:00 am – 3:00 pm: Solar observing
12:00 noon – 02:00pm : Demonstration using meteorite search equipment
8:30 pm – 9:30 pm: "What's Up"
9:45 pm - 1:00 am: Telescope and binocular observing session

Sunday May 22
10:00 am – 1:00pm: Solar Observing
Hosted by members of The Royal Astronomical Society of Canada, New Brunswick Centre

OBSERVERS' SCORECARD

	Explore the Universe	Messier	Finest NGC	I. William-son Lunar	Deep Sky Challenge	Dark Nebulae	Herschel 400	Levy Deep Sky Gems	Caldwell	Arp Galaxies	Abell Galaxy Clusters	Hickson
Gerry Allian	101	93										
James Ayles	37											
Adrien Bordage	100											
Bob Crossman		110	28									
Charles Doucete	110	110	110				65					
Ted Dunphy	102	110	110	51	10	8	265					
Colette Fortier	87	28										
Paul Gray	97	110	110	46	31	20	238					
Peter Jensen	12	73										
Don Kelly	110	110										
Mark Laflamme	106	30	2									
Danny LeBlanc		110	110				127		8	21	21	9
Emma MacPhee	78	110	110	5								
Curt Nason		110	110									
Mike Powell	70											
Detlef Rudolph	62											
Chris Weadick	71	26										

This section is intended to inspire our members to get out observing by promoting a friendly competition. The left column includes our members who have reported their successes to the scorekeeper, Paul Gray. To be included please contact Paul Gray at: editor@nb.rasc.ca