

# Nova Notes

The Newsletter of the Halifax Centre of the Royal Astronomical Society of Canada



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## Astro photo of the Month

*Blair MacDonald – Comet 73P  
(Schwassmann-Wachman)  
Fragment “C”*

The image is a two minute un-guided exposure taken at SCO using a Meade 416XT CCD camera and an 8-inch f/4 Schmidt-Newtonian scope. Image taken 27 April, 2006 at 2:46 AM UTC. Processing: Image calibrated using Maxim DL ★

*Comet 73P was a well observed object over the past few months, see page 3 for some of the talk on the email list, and Mike Boschat's sketch on page 12.*

## May Meeting Report

*Paul Evans*

The May meeting fell on a holiday weekend – leading to slightly lower than normal attendance. Of particular note, many of the Centre Council members were not able to be at the meeting. The author of this report, as 1st VP, was required to fill in for Craig Levine, our President. The meeting started on time at 8 p.m. and I introduced the meeting, including discussing the benefits of membership as several new visitors were in attendance.

The main speaker for the evening was

Dr. Dave Turner who presented the talk titled “Stellar Evolution as an Observational Exercise: More Exciting than Watching Mud Dry”. During this talk, Dave presented a background on stellar evolution including the primary transformations stars go through during their life and how we model that evolution. Due to the slow nature of stellar evolution, supernova explosions that mark the end of the life of a star are often considered the evidence of this evolution. During this talk, Dave presented how observations of certain variable stars collected over relatively short periods of time – and cumulative variations of their periods – can provide important insights into

stellar evolution. On behalf of the Nova East committee, Daryl Dewolfe provided a short update about the upcoming Nova East star party which will occur at Smiley's Provincial Park from August 25th to 27th.

Dr. Roy Bishop, our Honorary President, performed yeoman's duty by filling in at short notice and presenting What's Up – an update on upcoming items of observational interest. Of particular note, Jupiter is presented well for observing, and Roy noted that while observing objects in Virgo he was struck by the loud chorus of spring peepers at this time of year.

After the conclusion of the formal part of the meeting the membership mingled over conversation and refreshments. ★

## Congratulations Andrea Misner, SMU Class of '06!

Andrea Misner came to Halifax from Bridgewater in September 2001 to start her undergraduate science degree at Saint Mary's University. A long-time astronomy nut, "Miss Universe" chose an astrophysics specialty in the SMU Astronomy & Physics Department. At the same time, she joined the Halifax Centre of the RASC and contributed to Centre life in several ways over the next 5 years. On May 19, 2006, Andrea graduated with her B.Sc. (major astrophysics, minor English) and this Fall will enter the education program at The University of Maine at Fort Kent, Maine.

Andrea presented several talks to the Halifax Centre on meteors, cosmic rays,

and wormholes. She wrote up her meteor talk as a Nova Notes article for which she received the centre's Burke-Gaffney Award. She cheerfully attended almost all of the Centre meetings, where she could be observed rolling her eyes at the lengthy Q&A sessions at the end of talks. (After 5 days of lectures and labs, we are impressed that she would choose spend her Friday nights with us old RASCals at all!) She attended four Nova East star parties and served for the last three years as Secretary on the Centre Executive.

We all wish Andrea well in her chosen profession of science educator. We will miss her next year but hope to see her back "home" before long. In the words of Leonardo da Vinci (who Andrea admires very much) "La saggezza è figlia dell'esperienza", that is, "Wisdom is the daughter of experience."

*Dave Chapman ★*

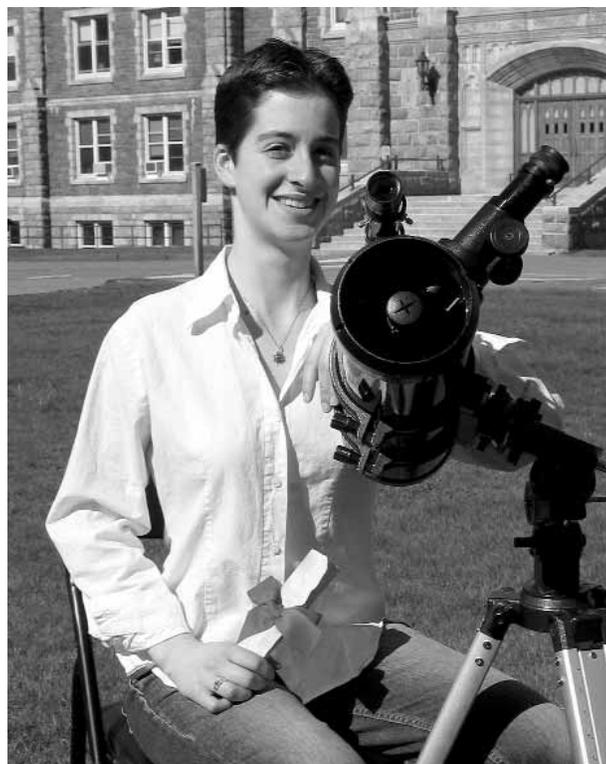
**Dear Fellow Exec Members, and RASC members,**

*I wanted to thank-you all for the warm farewell the other evening. It has been an absolute pleasure being part of this society. I have never seen so many individuals fueled by the same enthusiasm for astronomy and observing. Over the years I have thought of all of you as equals, mentors, friends, and often forget that some of you have children my age or older!*

*I have learned a great deal from this group. To Dr. Roy Bishop: If I ever get lost in my travels I will consult the famous handbook! To the president and past president, Craig and Steve, your keenness and leadership has taken this society to new highs! To Mary Lou, without you where would this society be? To Dave Chapman, without you my travels to Nova East and SCO observing would be small!*

*To all the exec members and all other members: thanks and thanks again!*

*Sincerely, Andrea*



# HALIFAX CENTRE

## Nova Notes

The Newsletter of the Halifax Centre of the RASC

PO Box 31011 Halifax, Nova Scotia B3K 5T9  
Articles on any aspect of Astronomy will be considered for publication.

Nova Notes is published bi-monthly in February, April, June, August, October and December. The opinions expressed herein are not necessarily those of the Halifax Centre.

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Nova Notes is also available as a PDF file on our Centre's website at [www.halifax.rasc.ca](http://www.halifax.rasc.ca)

If you are a person who downloads the latest issue of Nova Notes off of the web to print it at home, then you may be interested in taking your name off of the mailing list for the printed version. If so, please email me at the address above with the subject line "Remove from mailing list" and you will no longer be mailed a paper copy.

Material for the next issue should reach the editor by August 01-06

# As heard on hfyrasc@rasc.ca...

If you're a member with email, why not become part of the Centre's email list? The list is a great resource for people looking for other members to observe with, for reminders of upcoming astronomical events, or for sharing information. Members who observe at

St. Croix usually post a notice to say if they'll be out that night. Log on to our website ([www.halifax.rasc.ca](http://www.halifax.rasc.ca)) to get signed up and you too could participate in lively intellectual discussions, or at least read them!

## Comet 73P

Well, after all the waiting and trying to block out the light pollution around me, I set my 6" f/10 Maksutov again and looked for Comet 73P. At 0100 UT I came across it at 60x! I was happy as heck to be able to see it.

I was observing from my balcony in Halifax, Nova Scotia, Canada and the seeing was Ant. I to II with limiting magnitude about 4.5. To me the comet popped into view and using averted vision I "thought" I saw 2 stellar points at 60x then moved up to 100x to try to get a darker background, but dismissed the 2 points as psychological because of the postings and other observations of seeing double parts. I could see just one possibly 9th magnitude and the overall comet appeared to be a tad elongated NNW for me as I was using a star diagonal. It reminded me of a faint globular cluster but it "was" brighter than M65 and M66 in Leo! I took the 6" Mak in and took out my 4" f/10 refractor and used 40x. The comet was visible in it no problem. The sky background was just a bit darker but again I saw only 1 point.

Mike Boschat –aa063@chebucto.ns.ca

## Comet 73P

I looked at comet 73P for the second time last night. I obtained the orbital parameters for the other pieces and tried to find B, C, G, and Q. (using ECU to make charts) Equipment: 33 cm Newtonian (Dobsonian mount) and 10x50 binoculars.

On the 22nd, I had seen C clearly with nice tail and fuzzy-star head and watched it for an hour – you could detect its motion easily that night because it was near two 12th mag stars separated by 49" arc. The comet moved more than that distance in an hour.

Last night I was able to see both B and C clearly, both with tails. B has a more star-like head than C and is a little smaller and fainter. I noticed no evidence of the trailing fragment, labeled AQ that broke off recently. I could find no evidence of Q and G. I chose them because in the past they were the brighter of the pieces.

I see that Skyhound ([www.skyhound.com](http://www.skyhound.com)) lists C as 8.2m and B as 8.5m while G is 12.5m (no mention of Q but R instead at 14 m). B and C were detectable in my

handheld 10x50's but only because I knew they were there. At 12.5m I should have seen G?

Larry Bogan – larry@bogan.ca

## Comet 73P

An interesting, rare sight!

The sky was clear over Avonport last night and although the sky was bright because of the gibbous Moon, the view of 73P-C passing by the Ring Nebula was memorable. I used my 444 mm reflector.

I timed closest approach of the head of the comet and M57 at 00:22 ADT (03:22 UT) May 8, and measured the separation between the head of the comet and the centre of M57 at that moment to be 3.3 arc-minutes. It was remarkable to see M57 and the comet close together in the central field of an eyepiece at 600x!

Twenty minutes later (at 03:42 UT) the gossamer tail of the comet was lying directly across M57.

Using the out-of-focus method, I estimated the comet to be about half a magnitude brighter than M57 (the latter,  $m = 8.8$ ), so the comet (fragment C) was near 8th magnitude.

Fragment B, about 3 degrees N of theta Herculis last night, looked much like fragment C, although its head seemed brighter. I did not notice any secondary fragments near the head of either C or B.

Roy Bishop – rg@ns.sympatico.ca

## Comet 73P

I also took my little 4" refractor out last night and I found the comet first try, but of course I cheated, used *thesky* and goto:| \*Shock\*

The comet was my very first DSO with the new scope. Being close to the max fringe of the scope I was amazed at what I saw. I could see using averted vision a small faint fuzzy object. I could make out the tail at times of good transparency and I could make out the two heads. I was using 26x and 73x and barlowed. My best view was 26x barlowed.

Jeff Donaldson – jdonald@ns.sympatico.ca

## Comet 73P

I did get a good look at the comet last night, though I had to wait until 2am for

Moonset. I could just barely see it as a faint smudge naked eye. Through the 80mm "C" component displayed a nice tail, very bright near the nucleus then getting fainter. Component B was also nice just barely fitting into the same field as M13, it appeared very large but fainter than C and there was a brighter "blob" about 1/2 a degree back in the tail, it could be the part that broke off. My magnitude estimations on C put it just fainter than 6th magnitude while B appeared into 7th magnitude and it is really spread out. I'm not sure if B could be seen even in a perfect sky without optical aid, it's just too diffuse.

The Moon will now interfere with this comet, which is too bad as it's just hitting naked eye levels. Low power binoculars will provide the best view.

Chris Beckett – christopher\_beckett@hotmail.com

## Comet 73P

Looking for the comet, I found segment C as a faint smudge in my 7X50's. At low power (25mm) my 10" clearly showed M57 and segment C in the same field. It was 22:00 AST. ECU puts them .46° apart. 73P-C had a bright core with fan like tail about twice the width of M57. I estimated the comet to be half again as bright as M57. At high power (9mm) M57 was just outside the FOV. There was no indication of more than one piece. It was a great sight to see M57 and 73P-C in the same field of view. Over the hour that I was able to observe the comet fragment moved closer to M57, by 23:00 the thin clouds had covered the comet and it was no longer visible. ECU puts their separation at .25°. I could not find segment B in 7X50's but easily found at low power with the scope. 73P-B was about twice as bright as segment C but a smaller coma and no apparent tail. Even barlowed 3X with 25mm I saw only one core.

Despite the half moon and thin cloud, it was a great sight to see a comet and M57 in the same FOV. With Saturn and the lunar X, a second comet fragment, It made for a very rewarding time under the stars after so long under rain and cloud.

Paul Heath – pheath@eastlink.ca

# Meeting Report

## December 2005

Paul Gray

December and the onset of winter allows for bad weather and therefore fewer people risk going out. But the Christmas season also allows some of us the chance to come home and be in town during a meeting night, hence my chance to do a meeting report. I don't think Craig thought I was serious when I volunteered the night before by email from Fredericton, but after saying he would buy drinks if I came to the meeting and do a report I made sure I was there. (*Note: Craig skipped out on the after meeting gathering at the Fireside and hence still owes me my drink*) Attendance was low due to the weather and Christmas season but those who ventured out were rewarded.

After some announcements the main speaker, Halifax's very own Mary Lou Whitehorne presented her talk, The Big Dipper Goes to School. Those who know Mary Lou know that she has been at the front of education in astronomy for quite some time, starting with organizing public observing events and planetarium speaking, and more recently the publication of SkyWays, a handbook for astronomy Educators! Her talk was one which showed us the need for educating the educators on how to teach astronomy – beginning with ourselves.

Mary Lou began by giving us a taste for what the general public knowledge is of science. The level of knowledge is quite bad when you look at some past surveys. For example one found that 47% of 17 year olds (high school age teens) cannot convert 9 parts in 10 to a percentage! Even more amazing is that 20% of adults cannot tell you correctly if the earth goes around the sun or if the sun goes around the earth!

Through education and public outreach the RASC (you) can reach thousands of people and students. A brief background in inquiry-based learning showed us how to not only go and give a talk with pretty pictures, but to actually engage the minds of those listening. Remember it this way, the 5E's: Engage, Explore, Explain, Elaborate and Evaluate. The first thing any educator has to do is engage the students in the activity or lesson. You have to hook

them into being interested, or get them to question what they are seeing. From there you can explore the topic and since they are now interested you can guide them through the thought process of trying to understand what they are seeing, which is really effective in hands-on activities. Once they have all the pieces you can explain the phenomenon.

Mary Lou then walked us through an example using the constellation of Ursa Major, the big bear. By exploring the many different cultures that see the Ursa Major as different objects, a Bear or a Plow for example students can not only study astronomy but also cover some social studies curriculum. The example used was how the Mikmag saw a bear that would rise out of the den in the spring and climb high in the sky during summer. During the fall it was hunted by the 3 stars in the dipper's handle and once slain would start to set in the northwest. Dripping of the wounded bear's blood would turn the leaves on the trees red as they do in the fall. During winter the bear is on the ground or in the den waiting the next spring.

Recently Mary Lou was awarded the Las Cumbres Amateur Outreach Award from the Astronomical Society of the Pacific for her work in astronomy education. Lucky for her she would travel to Arizona to attend the ASP conference and receive the award. She had us all in awe as she showed us slides from her trip to places like Meteor Crater, Monument Valley and David Levy's backyard for a star a party!

After a short break Blair gave another short talk in his series on astro imaging. Tonight we learned about dreaded noise and most importantly how to get rid of it! Noise can come from a few sources including cosmic ray hits and moon light for example. Noise from moonlight or light pollution is best reduced by observing from a dark site (not something we can always do) whereas noise from cosmic ray hits and the camera system can be removed digitally. The overall best way to reduce total noise though is by increasing the signal to noise ratio by increasing exposure times. The signal of the object you are imaging goes up as you increase exposure but noise does not thus creating a better image. It also gives you more flexibility in the processing. ★

## SCO Work Party held May 28

A big thank you to all the hearty souls who gave up their Sunday afternoon to give SCO it's annual spruce up. The temperature at SCO was a balmy 26 degrees.

Thanks as well to Quinn Smith for the use of his generator and shop vacuum. The roll off and RAScan have never been so clean.

Andrew Robertson very kindly brought with him a new barricade which he built for the driveway. The existing one had clearly reached the end of its useful life.

Clint Shannon – thanks for the use of your sprayer. It makes the application of the water proofing a very painless affair. I checked the electrolyte levels in the batteries and they are fine. Since we have the generator present, we also charged both batteries.

Thanks once again to Rob Sheppard, William Place, Mark Dryden, Daryl Dewolfe, Clive, Dave Parsons, Galen Thurber and Andrew Robertson.

Best Regards

Tony McGrath ★

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## Web-only Nova Notes?

If you are the type of person who downloads the latest issue of Nova Notes off of the web to print it at home, then you may be interested in taking your name off of the mailing list for the printed version. If so, please email me at [agatto@ns.sympatico.ca](mailto:agatto@ns.sympatico.ca) with the subject line "Remove from mailing list" and I will do just that. If enough people opt out then I will consider sending out the issue to members in a large group email. But for now, **you will be responsible for downloading the issue yourself each month**, and will not be added to the list again unless you email me again to reinclude yourself. ★

# Come See the Stars!

Smiley's Provincial Park  
Hants County, Nova Scotia

AUG. 25 – 27, 2006

*THE ROYAL ASTRONOMICAL SOCIETY OF  
CANADA, HALIFAX CENTRE,  
THE MINAS ASTRONOMY GROUP,  
AND THE NOVA CENTRAL ASTRONOMY CLUB  
PRESENT*

The 20th Annual Atlantic  
Region Star Party

**Nova  
East**   
**2006** 



# Nova East 2006 Program of Events

## Friday, August 25

1:00 p.m. – 7:00 p.m.

### Registration

@ the Registration Tent

Hosts: Irene Moore & Dave Parsons

7:45 p.m.

### Welcome & Announcements

@ the Event Tent

Hosts: John Jarvo & Daryl Dewolfe

8:00 p.m.

### Voyages in Spacetime; via Unaided Eye, Telescope, Rocket, & Imagination

Nova East 2006 Special Guest Speaker:

Dr Roy Bishop

@ the Event Tent

....followed by

Nova East Registrant Observing

@ the Observing Field\*

## Saturday, August 26

Nova East is a Public Outreach Event. Several Saturday events (notated by a capital "P") are "Park & Public invited events". We welcome newcomers of all ages!

8:30 a.m.

### Astronomers' Breakfast (P)

Hosts: Ron Mills & Smileys Park

Campground Hosts

@ the Event Tent

10:00 a.m.

### Nova East 2006 Group Photograph

@ the Observing Field

10:15 a.m.

### A Naturalists' Universe (P)

A three part presentation illustrating how Nighttime Naturalists (*ie astronomers*) can utilize some of their acquired skills in the Daytime Universe.

10:15 a.m.

### Part 1 Parallel Worlds

Hosts; Patrick Kelly, Judy Tufts

10:45 a.m.

### Part 2 How to "pish" at the Universe (helpful on cloudy nights)

Host: Sherman Williams

11:00 a.m.

### Part 3 Digiscoping

Host: Dr Richard Stern

@ the Event Tent

11:30 a.m. – 1:30 p.m.

### LUNCH BREAK

1:30 p.m.

### Welcome to Refractorland

Unscrambling the semi-apo, achro, color-corrected, ED lingo of refractor telescopes.

The Astro-marketplace has myriad selections. Are they still the best choice for Lunar and planetary observing?

Hosts: Chris Beckett, et al

@ the Event Tent

2:30 p.m.

### Newtonianville

Issac did not make 'em like this!

Build your own? Assemble it from components? Motorize & track with it? Get the goods on all of it at this workshop.

Hosts: Gary Weber, Daryl Dewolfe, et al.

@ the Event Tent

3:30 p.m.

### Compound Telescope City

The Shape of Things to Come?

(*apologies to H.G. Wells*)

What's behind the click, whirr, & beep of Schmidt-Cassigrains, Schmidt Newtonians, & Maksutov-Cassigrains? Astro-photographers have never had it so good.

Hosts: Blair MacDonald, Darren Talbot,

Larry Bogan @ the Event Tent

4:30 p.m. – 6:30 p.m.

### SUPPER BREAK

7:00 p.m.

### The Nova East 2006

### Door Prize Draw

Host: Chris Beckett

@ the Event Tent

10:00 p.m. – 12:00 p.m.

### "The Heavens Above Us" (P)

The Nova East Astronomers invite Smileys Park Campers & the general Public to view the stars & other celestial objects in the night sky through telescopes of all sizes and shapes.

@ the Observing Field\*

*\*astronomical twilight begins approx. 10 p.m.*

## Sunday, August 27

8:30 a.m.

### Bannock & Coffee (P)

Host: Gary Weber & the Milky Way

Bannock Bakers

*(join us! take your own recipe & bake it for all to taste)*

@ the Event Tent

9:30 a.m.

### Nova East 2006 Nine Planet Challenge

Host: John Jarvo

(a fun opportunity to experience F=MA)

@ the nearby Coyote Hill Golf Course

*(contact [jjarvo@eastlink.ca](mailto:jjarvo@eastlink.ca) if you want to participate!)*

10:00 a.m. – 11:30 a.m.

### Flotsam & Jetsam Sale (P)

A great opportunity to purchase, or unload, your astro & scientific-surplus !

Host: Rob Sheppard

@ the Event Tent

NOON

### Farewells & Packing Up

(please see us before you leave – we have a gift for you)

No other formal events are planned for Sunday. Traditionally, at past Nova East Star Parties, some attendees have always stayed for Sunday night observing. Nova East campers are welcome to stay another night on your site (camping fee payable directly to the Park Office).

Please note that all Nova East times are somewhat flexible. Please check the Message Board @ the Event tent for any schedule changes.

*Nova East is presented by: The Minas Astronomy Group, The Halifax Centre of the Royal Astronomical Society of Canada, The Nova Central Astronomy Club.*

**Bringing** the stars to the public is a legacy of every Nova East Star Party. To that end, Nova East 2006 is offering a wide selection of "sidewalk astronomy" events which are open to the general public, Nova East attendees, and Smiley's Park users. Look for the (P) near events on the Program (facing page) and check the message board at Nova East for other impromptu events.

In addition, Nova East registrants have access to an evening Astro-Talk by a special guest speaker, Astronomers' Breakfast, Astronomy Workshops, two evening group Observing Sessions, and a chance to win some neat door prize draws. Nova East Registrants have on site parking (if Camping) or adjacent site parking (if non-Camper). Otherwise, parking is at the Park Entrance.

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## Nova East Etiquette

To make Nova East an enjoyable and safe experience for everyone, we would appreciate your co-operation in following these Star Party rules of etiquette:

### 1. RED LIGHTS, WHITE LIGHTS AND GREEN LASERS

White lights ruin our night vision and our ability to see the night sky. Please cover flashlights and/or car lights with a red filter. Green Lasers are to be used with caution, and not at all after midnight. Please don't operate a naphtha or propane lantern on the site after dark (Nova East Family Campsite Area exempted).

### 2. CARS AT NIGHT

For Nova East campers, please don't move on site vehicles at night. Better yet, move your vehicle to the nearby non-camping parking area ahead of time for an easy departure. Parking for non-camping Nova East attendees is available inside the Park near the observing site. Check at the Nova East Information Tent for directions.

### 3. PETS and VALUABLES

Park rules require pets to be kept on a leash. Please protect your valuables as Nova East is not responsible for lost or stolen articles. However, Park staff, and selected Nova East personnel, have been assigned to ensure site security.

### 4. ALCOHOLIC BEVERAGES

No alcoholic beverages are allowed to be consumed on site.

### 5. PLEASE FOLLOW ALL PARK RULES

A copy of park rules are available at the park entrance.

## Smiley's Park and Local Services

### Smiley's Park Facilities

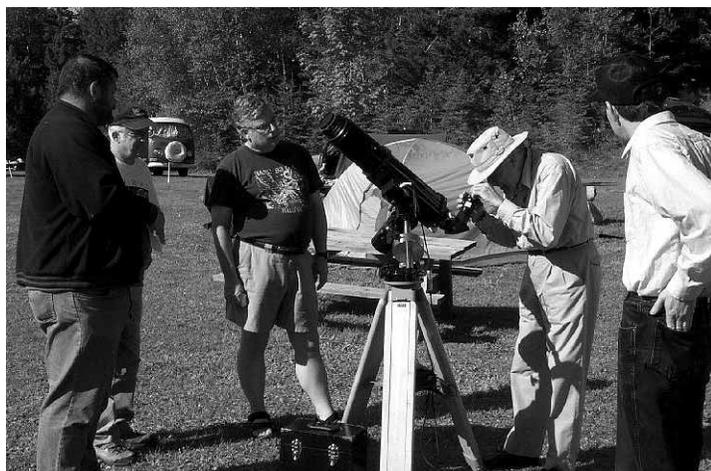
In the Park, over 100 campsites are available to the general public. Hot showers and flush toilets are at the main comfort station. Water, fire grills, picnic tables, a trailer dump station, and facilities for the disabled are also available. Firewood can also be purchased.

### Local Services

Gas stations, Camping Supplies, Confectionary goods, and Hardware supplies are 5min. from Smiley's Park in the village of Brooklyn. Extensive services such as Malls, Restaurants, Banking, and 24hr services are in the town of Windsor, 15min. from the Park. The closest motel (but not the only one) is the Downeast Motel, 902-798-8374, also 15min. drive from the Park.

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We hope to see all of you again for Nova East 2007 here at Smiley's Provincial Park!



## Campsite Reservation Information

This is a camping week-end so we encourage everyone to bring their tent or trailer. Once again, we have camp sites available adjacent to the observing site. To guarantee one of these sites it would be best to pre-register. All Nova East campers pay for and register their campsite with us – do not register at the Park entrance. Specific campsites will be assigned upon checking in at the Nova East Information Tent at the Nova East site in the Park. One vehicle per site. Non-camping vehicles are not permitted in the Nova East campers area. Nearby vehicle parking is available.

## New – Nova East Family Camping

A Family Camping Area has been designated for Nova East 2006! This is a campsite area separate from, but close to, the Nova East field area. In the Family Camping Area, white lights & campfires are permitted at night. There is a group shelter for cooking & leisure use. There will be some cool Astronomy-Science for Kids programs offered at this location during the Nova East week-end.

## To contact Nova East 2006

Visit our Website:

<http://halifax.rasc.ca/ne/>

E-mail us: [novaeast@rasc.ca](mailto:novaeast@rasc.ca)

## Promotional Items

The traditional Nova East T-shirt has gotten a refreshing shot in the arm. This year's exciting design features an astro photo from the Halifax Centre's own Shaun Lowe and promises to be a keepsake item for years to come. A limited supply of Nova East T-shirts will be available at the star party. To avoid disappointment, it would be best to pre-order your Nova East 2006 T-shirt with your pre-registration. Your T-shirt will be then be waiting for you upon arrival at the Nova East Information Tent. There will be no orders after the August 01, 2006 T-shirt deadline.

*What will this year's shirt design, look like? You'll have to wait and see – the Nova East committee has decided to keep it under wraps until the event. :(*



Please return this form to this address by August 01, 2006, with a cheque payable to **RASC, Halifax Centre.**

Nova East 2006

c/o Dave Parsons 485 Basinview Drive Bedford NS B4A 1T3



## Registration Form

Name: \_\_\_\_\_

Street or P.O. Box #: \_\_\_\_\_

City: \_\_\_\_\_

Province: \_\_\_\_\_

Postal Code: \_\_\_\_\_

Telephone #: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

### The Nine Planet Golf Challenge

The Nine Planet Challenge will take place at the nearby Coyote Hill Golf Course on Sunday August 27. Pre-registration is required. To pre-register and for more information contact: [jjarvo@eastlink.ca](mailto:jjarvo@eastlink.ca)

## Fees

### Attendance

\$15.00 for Weekend  
(Single or Family attending)

weekend pass/passes X \$15.00 =

### Camping

\$18.00/night  
One vehicle and one tent/  
trailer permitted per site

night/s X \$18.00 =

Family camping site preferred (see above)

For people interested in the family camping sites please fill out the following:

Children's name/age/sex:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

### T-Shirts

All T-Shirts are \$15.00. Please indicate the number of each size you will need.

XL  LG  MD  SM

Total number of shirts  X \$15.00 =

Total Payment =

# Meeting Report

## March 2006

By Paul Heath

The March meeting opened with Craig explaining some of the new meeting format changes, followed by his spiel on membership benefits, and a plea to renew your membership on time.

Our guest speaker Dr. C. Ian Short was introduced and he proceeded with his talk, "What heats the chromosphere and corona of the Sun? An astrophysical mystery".

John Vandermeulen's synopsis on the email list was far more concise than my notes allowed for this meeting report so I include his notes here:

*Dr Short's talk on heat dispersion in the Sun was very informative, and lucid. I doubt that anyone could not follow the drift and meanings. From my seat, it was precisely the sort of talk that was aimed directly at the diverse group of members that we are. To*

*encapsulate – the temperature of the Sun's core is around 10,000°K, cooling down to some 5,000°K at its 'surface'. We would expect cooling to continue when measuring in the Sun's 'atmosphere'. However, but for a short distance above the surface where the temperature is held around 5,000°K, the temperature rises in an almost straight line up to over 1 million°K.*

*How does this happen? (Here I am very grateful for the pre-talk abstract, without which I might as well have gone snipe hunting.) The phenomenon appears linked to, at very least, two possible solar processes; sound waves that propagate from the Sun's surface/dense lower atmosphere into the rarified upper atmosphere are in some way creating the outer atmosphere's temp into increase. The second possibility are 'magnetohydrodynamic (MHD) waves' in the corona creating this unexpected temperature inversion. However, there is a kicker. The outer atmosphere is a very dim gas, i.e. very low density, so that it may demonstrate 1 or 2 million°K, while its heat content is near zero.*

*Great stuff, and followed with many questions from the members. My google search the following day showed the majority of scientific publications betting on the second. If you want to know more, try [http://www.scientificamerican.com/print\\_version.cfm?articleID=0005FA5B-7ED5-1C72-9EB7809EC588F2D7](http://www.scientificamerican.com/print_version.cfm?articleID=0005FA5B-7ED5-1C72-9EB7809EC588F2D7)*

*Paul Gray, from N.B. – possibly best known as Dave Lane's partner in their on-going supernovae hunt – spoke briefly about the labours involved in a Messier Marathon, i.e. locating all 110 Messier objects, (mostly faint fuzzies) within one night. In a real tour de force, Paul raced through dozens of star maps, pointing out these dim things, and showed just how fast the observer has to seek, and view, and confirm. For someone who has never seen even a single Messier object, a marathon struck me as darn near impossible.*

A brief show-and-tell by Jim Dorey followed of three newly purchased (and un-tried) eyepieces, formerly owned by Alan Dyer, co-author of *Advanced Skywatching* and others. ★

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# Meeting Report April 2006

By Larry Bogan

President Craig Levine presided.

One or two persons in the audience were not members and received the standard commercial presentation illustrating the benefits of RASC membership. Saturday, May 6 is International Astronomy Day, and the Center has public activities planned to mark the occasion.

Pat Kelly reminded all of the coming RASC Annual General Meeting in Ottawa and of three important votes at the meeting.

- 1 New criteria for setting the number of national representatives
- 2 Fee change for life membership
- 3 Fee increase for National Centre

Tonight's meeting had five presentations by members of the Halifax Centre. All of which followed the new format of talks first, then goodies and socialization

The topics were:

- 1 Bart Bok by Dave Chapman
- 2 Worm Holes (Fact and Fiction) by Andrea Misner
- 3 Astro Imaging – High Pass filtering by Blair MacDonald
- 4 Using an Equatorial Mount by Craig Levine
- 5 The Centre's new 100mm Binoculars by Paul Evans and Daryl DeWolfe

1. Before Dave started his talk, he showed the audience the RASC National Simon Newcomb award upon which are inscribed several Halifax Centre member's names as well as his. He was handing it back to Mary Lou to be given to the next winner to be announced in Ottawa.

Dave has created a web page with his outline of Bart Bok's life, and links to other information on this Dutch- American astronomer. See [http://homepage.mac.com/chapmandave/Astro\\_Reflections/Personal100.html](http://homepage.mac.com/chapmandave/Astro_Reflections/Personal100.html)

Bok was chosen as a subject because this month is the centennial of his birth. He was educated at Leiden University then went to Harvard to study with Harlow Shapley and went on to become one of the major investigators

of the Milky Way galaxy. It has been suggested that Bok's move to the United States was not just due to Shapley's invitation but because a Miss Priscilla Fairfield, an astronomer at Smith College, was in the U.S. He had met her at a 10-day IAU meeting in Europe and fell for her. (Note, she was 10 years older than he.) Bok worked at Harvard until 1955 when he moved to Mt. Stromlo Observatory in Australia to be its director. There, he and Priscilla studied the Southern Milky Way and Magellanic Clouds. In 1966 they returned to the U.S. for Bart to be Directory of the Stewart Observatory at the University of Arizona. Priscilla passed away in 1975 and Bart in 1984. A good summary of Bok's life is in Peter Millman's obituary of Bart Bok in the 1984 RASC Journal, Issue #1.

2. If you like multi-media and Mission Impossible, you would have especially enjoyed 'agent' Misner's presentation. Music and Videos with added explanations of the origins of the Wormhole theories. (Did you know that a type of wormhole was postulated as early as 1935 by Dr. John Wheeler?) We were shown views of the operation of fictional wormholes used in the Sci-fi series

Stargate SG-1 then a comparison was made with actual properties that worm-holes should have. Well according to Andrea, its OK to have a bridge to another part of the universe but you can not see that other part through the wormhole. It's OK to go through but such material as plasma jets coming out of them is not allowed. So the TV series has roughly a 50% score in being physically correct.

3. Blair MacDonald gave us another chapter in his series on Astronomical Imaging with a CCD. He showed us how to sharpen blurry images using a high pass spatial filter. As an example, he used his image of the Moon that was on the April issue of Nova Notes. There are three ways of sharpening the edges. The first is filtering out the low spatial frequencies then adding back in half the original image. The next is the "unsharp mask" as available in many computer paint programs which combines a blurred negative with the image. The third uses a matrix of appropriate numbers operated on the whole image pixel by pixel to emphasize the edges of an object in the image.

4. Craig brought in his SkyView Pro Equatorial mount (350 US\$ new from Orion Telescopes) to illustrate the use of such a mount for observing. He suggests

- 1 setting up in the daytime and leaving

- 2 set the latitude
- 3 set the north (with compass in daytime, or with Polaris at night)
- 4 balance the telescope with the eyepiece to be used
- 5 use the slow motion controls, motors are not necessary
- 6 be aware of the necessity of flipping the telescope over the meridian for southern objects.

If you plan to get an equatorial, be sure that it is heavy and sturdy enough to handle more than the weight of your scope. This one is good for 90-100mm refractors with little vibration problems. The gears are fine for visual observing but not good enough for astrophotography. A heavier and more precisely build equatorial mount is needed for the later activity. Suggested reading is Dickinson and Dyer's "Backyard Astronomer's Guide".

5. Paul and Daryl were the ones who proposed the purchase of a large pair of binoculars using a portion of Dr. Bill Thurlow's bequest to the Centre. The Executive approved, so Paul and Daryl made the selection and purchase. Daryl showed how to assemble the binoculars on the tripod (alti-azimuth type). The binoculars are made by APM of Germany, have 45 deg erecting prism and come with 20 and 40 power eyepieces. They have individual focus eyepieces with

wide-range inter-ocular distances. The fields of view are 2.7 and 1.5 degrees with 15 and 20mm eye relief (quite good for observing with eyeglasses). The binoculars are a beautiful black finish with a handle and dew shields. They come with a study tripod and a aluminum carrying case. Needless to say, there was a lot of interest by many members and we all looked closely at them after the meeting. I look forward to be able to scan the skies with them. (specs at <http://web26.h137151.serverkompetenz.net/html/info.php?id=96965>)

Our new Observing Chairman is Tony McGrath and he gave the "What's Up" to close out the evening's program. He brought in a pile of suggested observing 'tools'. These would be good for planning observing sessions.

- 1 Sky and Telescope *Sky Gazer's* Chart
- 2 A *Bright Star Atlas* for general
- 3 Observing recording forms
- 4 Planisphere
- 5 Small Scale Sky Atlas for more detail
- 6 RASC Observer's Handbook

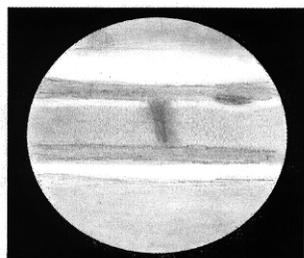
Tony handed out a sheet with this month's objects-of-interest. Be sure to look for announcements for observing sessions on the Halifax rasc email-list.  
★

## Jupiter Sketches

Michael Boschat

### JUPITER REPORT FORM

Name MICHAEL BOSCHAT Location HALIFAX, NOVA SCOTIA, CANADA  
 Date MAY 14/15 Start 0015 UT Finish 0030 UT  
 Telescope 4 IN 5/10 REFRACTOR Magnification 112x Seeing Ant I to II

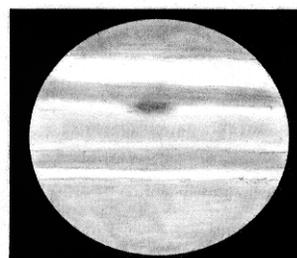


Time(UT) 0030 CM:ω<sub>1</sub> 357.36 CM:ω<sub>2</sub> 230.23

Observational Notes  
NOTED FESTOON FROM NEB<sub>6</sub> TO SEB<sub>1</sub>. ALSO ON  
EAST PART NEB A "BAR" OF DARK COLOR. FESTOON  
WAS JUST BIT DARKER THAN THE EZ.

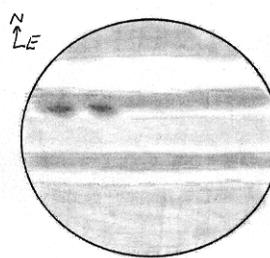
### JUPITER REPORT FORM

Name MICHAEL BOSCHAT Location HALIFAX, NOVA SCOTIA, CANADA  
 Date MAY 15/16, 2006 Start 0015 UT Finish 0115 UT  
 Telescope 4 IN 5/10 REFRACTOR Magnification 112x Seeing Ant II



Time(UT) 0015 CM:ω<sub>1</sub> 164.52 CM:ω<sub>2</sub> 29.68

Observational Notes  
DARK BAR ON NEB<sub>5</sub> AT FIRST OBSERVATION  
THEN NEAR WEST LIMB 2 DARK AREAS NOTED. SKY  
HAD 60% CLOUD BUT THINNER CIRRUS BY 0100 UT.



UT=0100 191.95 56.88  
 ω<sub>1</sub> ω<sub>2</sub>



Part of your membership in the Halifax RASC includes access to our observatory, located in the community of St. Croix, NS. The site has grown over the last few years to include a roll-off roof observatory with electrical outlets, a warm-room and washroom facilities. Enjoy dark pristine skies far away from city lights, and the company of like minded observers searching out those faint fuzzies in the night.

2006 Observing Chair: Tony McGrath 463-4018

## Members' Night

Every weekend closest to the new Moon there is a Members' Night at St. Croix. The purpose of members' night is to attract members from the Centre to share an evening of observing with other members. It's also a great night for beginners to try out different scopes and see the sky under dark conditions. For more information or transportation arrangements, please contact the Observing Chair. *Dates for Members' Nights for the remainder of 2006 are:*

23-June | 21-July | (Nova East-Aug.) | 22-September | 20-October | 24-November | 22-December

These dates are all Fridays, and the alternate date will be the following Saturday.

## Directions from Halifax

*(from Bayers Road Shopping Centre)*

1. Take Hwy 102 (the Bi-Hi) to Exit 4 (Sackville).
2. Take Hwy 101 to Exit 4 (St. Croix).
3. At the end of the off ramp, turn left.
4. Drive about 1.5 km until you cross the St. Croix River Bridge. You'll see a power dam on your left.
5. Drive about 0.2 km past the bridge and take the first left (Salmon Hole Dam Road).
6. Drive about 1 km until the pavement ends.
7. Drive another 1 km on the dirt road to the site.
8. You will recognize the site by the 3 small white buildings on the left.

## Become a St. Croix Key Holder

For a modest key fee, members in good standing for more than a year who have been briefed on observatory can gain access to the St. Croix facility. For more information on becoming a key holder, contact the Observing Chair.

## RULES FOR THE 17.5" SCOPE (OR ANY RASC SCOPE AT SCO)

On Members' Nights the 17.5" scope must be shared by all members. The 17.5" scope can be used by anyone, but all views have to be shared with anyone interested in taking a look.

On non Members' Nights the scope can be used by individuals wishing to work on personal observing projects. Members should try to limit their use to under 45 minutes when other members are waiting to use it. Preference will be given to members who send an email to the hfxrasc list, or call the observing chair on the night they want to go out. If no one else wants to use the scope then feel free to use it all night, but it would be considerate every so often to ask members there if anyone has been quietly waiting to use it.

Please contact the Observing Chair for more information.

# Meeting Announcements

Halifax Centre of the Royal Astronomical Society of Canada



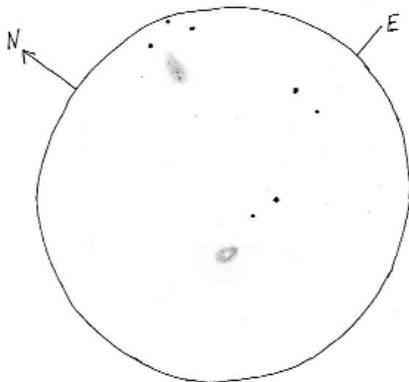
There are no meetings in the summer months of July/August. See you in September!

## Astro Sketches

Michael Boschat

Comet P73/ Schwassmann-Wachmann and M57 ( Ring Nebula)  
As observed by Michael Boschat on May 7/8, 2006  
Eyepiece field at 60x

**Feature:** Comet P73/Schwassmann-Wachmann and M57 (Ring Nebula) **Date:** May 7/8, 06  
**Time:** 0100-0130 UT  
**Telescope:** 15cm (6"), f/10, Intes-Maksutov @ 60x and 100x **Seeing:** Antoniadi = 1  
**Transparency:** 3/5  
Somewhat Clear – Cirrus, moderate haze, moonlight and light pollution.



**Remarks:** Comet P73 and the Ring Nebula were in the same 60x field as shown in the drawing. Because of the mentioned poor transparency, the use of averted vision was helpful. Overall in my personal view the comet appeared just a bit brighter than M57 as it was seen first. Again, I noted two stellar like points in the comet. The comet appeared a tad smaller than M57 but not by much. The comet elongation was noted. Unfortunately, the clouds began to come in a bit more thickly, and I could hardly see both objects after 0130 UT. Vega, Jupiter and the brighter stars had halos around them from the clouds. I stopped observing at 0200 UT.

Meetings begin at **8:00 P.M.**

*Members of the general public are welcome.*

All members—but especially new ones—are invited to come to the meetings 20 - 30 minutes early to participate in our new informal "Meet and Greet". It's a chance to ask questions about astronomy, the RASC, memberships, or to just say hello.

Room 176 Loyola Building  
Saint Mary's University *(See Map Below)*

*The Halifax RASC*

*Executive meetings*

*begin at 7:00 P.M.,*

*and members are*

*welcome to attend.*



## Halifax RASC Executive 2006

Honorary President	Dr. Roy Bishop	
President	Craig Levine	852-1245
1st vice-president	Paul Evans	423-4746
2nd vice-president	Marc Bourque	835-2589
Secretary	Andrea Misner	425-5074
Treasurer	Pat Kelly	798-3329
Nova Notes Editor	Michael Gatto	453-5486
National Rep.	Pat Kelly	798-3329
2nd National Rep.	Mary Lou Whitehorne	865-0235
Librarian	Alex LeCreux	404-5480
Observing Chairman	Tony McGrath	463-4018
Councilor	Jim Dorey	464-8781
Councilor	Wesley Howie	835-3966
Councilor	Gilles Arsenault	

## Meeting Location

Meetings are held every third Friday of the month, except for the months of July and August. Meetings take place in room 176, Loyola Building (#3 on map) at Saint Mary's University.

1. McNally
  2. Sobey Building
  3. Loyola Academic Complex
  4. Loyola Residence
  5. Patrick Power Library
  6. Science Building
  7. Burke Building
  8. Bookstore
  9. Alumni Arena
  10. The Tower
  11. Rice Residence
- P = Parking

