

# Nova Notes

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



PO Box 31011, Halifax, Nova Scotia, Canada B3K 5T9 www.halifax.rasc.ca halifax@rasc.ca

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E mail: novanoteseditor@rasc.ca

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Front Page Photo: Dave Chapman  
The Old Moon (the subject—not the  
photographer!) (Details page 7)



## From the editor

*Quinn Smith*

Welcome to 2013 and a brand new year for the Halifax Centre!

Our Annual General Meeting was held last December, to a small group of only 21 members. I know that it is not always easy to attend meetings and that the AGM is perhaps not the most exciting way to spend an evening, but the outcome of this meeting sets the direction for the Centre for not only the next year (by way of the elected Executive) but often for several years into the future. As a long term member of the Centre I was rather disappointed at the turnout. We have approximately 160 members and we had less than a 15% turnout. Oh well, at least everyone reads Nova Notes and is kept informed as to what is happening in the Centre.

There are a couple of items that came out of the AGM and associated Executive meeting that is worthy of mention. The first is that the Centre is making an application to National Council to host the 2015 General Assembly (the annual meeting of the National RASC). If accepted by National, the Halifax Centre will host approximately 120 RASC members from across the country from July 2nd to July 5th 2015, at Saint Mary's University. 2015 coincides with the 60th anniversary of the formation of the Halifax Centre in 1955, and also the 45th anniversary of it's "revival" in 1970.

Also some of you may notice a change in the Halifax e-mail list. This is a private communication list for RASC members and we have recently purged the list to reflect current membership. If you have found that you can no longer post to the "list" it is probably due to the fact that your membership has lapsed and we encourage you to renew. If we have made a mistake (and we do!) our apologies—and please contact me at the e-mail address in the mast head and we will put you back on the "list".

## St. Croix Observatory

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, use of the Centre's 437mm dobsonian telescope and 100mm binoculars, 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. Observing nights (Fridays close to the New Moon) are open to both members and guests. If you are not a key holder and would like to become one, or need more information please contact the Observing Chairman, John Liddard (for contact info, see below).

### Upcoming Observing Nights:

February	8th	2013
March	8th	2013
April	12th	2013

Meetings begin at 8 p.m. at Saint Mary's University

Our usual room is AT 101 although check the web site ([www.halifax.rasc.ca](http://www.halifax.rasc.ca)) for room changes.

### February 15th 2013

Guest speaker: Mary Lou Whitehorne will talk about the recent solar eclipse in Australia.

### March 15th 2013

Guest speaker: Dave Turner will talk about the "Origin of the Constellations".

### April 19th 2013

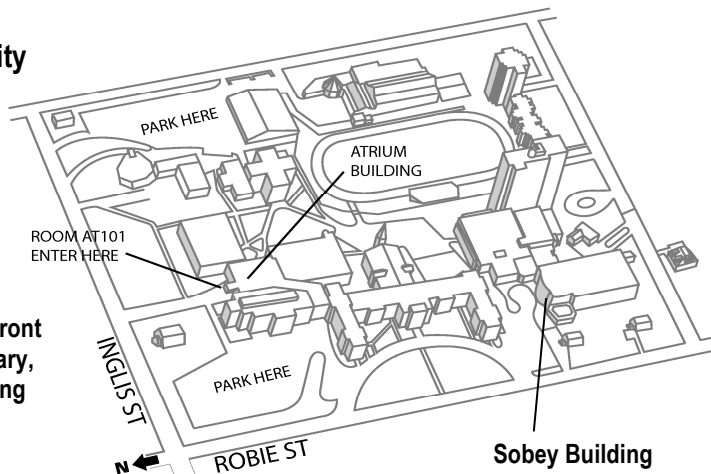
Guest speaker: Robert Deupree. At this point we don't have Robert's topic—but we're sure it will be interesting!

All meeting location and contents subject to change

## Meeting Location: Saint Mary's University

### Atrium Building Room AT 101

The Atrium is located in front of the Patrick Power Library, between the Burke Building and Science Building.



Meetings are usually held on the third Friday of the month, except for the months of July and August, when there are no meetings.

The NOVA program (an introductory course in astronomy) will not be held this year.

Executive meetings begin at 6:45 p.m., in room AT 306, and all members are welcome.

## Halifax RASC Executive, 2013:

Honorary President	Dr. Roy Bishop	902 542 3992	RLB@eastlink.ca
President	Paul Heath	902 457 0610	pheath@eastlink.ca
1st Vice-President			
2nd Vice-President	Karl Penney	902 457 4046	karlpenney@eastlink.ca
Secretary	Chris Young	902 441 6861	cjy@eastlink.ca
Treasurer	Ian Anderson	902 678 8009	taursagroup@yahoo.ca
Nova Notes Editor	Quinn Smith	902 852 3894	quinnjem@yahoo.com
Librarian	Graham Rose		gbrosegr@netscape.net
Observing Chair	John Liddard	902 865 7607	jliddard@gmail.com
Observing Chair assistant	Alex LeCreux		
National Representative	Pat Kelly	902 472 2322	patrick.kelly@dal.ca
Councilor	Wesley Howie	902 448 3966	wes@lightimages.org
Councilor	Sean Dzafovic	902 430 9062	sdzafovic@gmail.com

## 2012 President's Report

Robert Bussieres

I have been blessed with the privilege of having been the President for our Centre this past year. I must say that the experience was anything but boring. There were a lot of good times, especially during our meetings, together with an overall mix of challenges and rewards. However; way too early for my liking, I have to step down due to family health reasons.

For all the years that I was part of the Executive, I have always been impressed with our Councilors' and membership's professional deportment and energy. It doesn't matter where I looked, from Executive and Members meetings, to outreach events, we have always demonstrated outstanding behavior and genuine care and interest toward each other and the general public. Never have I seen any trace of bickering, or self-interest. This also means that none of us would go very far in today's politics.

In the last year, we had a series of great guest speakers, who provided us with excellent presentations.

- January: Dr Luigi Gallo "Seeing the Universe in X-rays".
- February: Blair MacDonald gave us "Imaging, Part 1".
- March: Member's Night.
- April: Blair Macdonald returned with "Imaging, Part II".
- May: Dr Roy Bishop prepared us for the Transit Of Venus.
- June: Patrick Kelly with "Searching for Extra-Solar-System Planets".
- September: Tim Doucette, the legally blind astronomer, provided us with "Deep Sky Eye".
- October: Dr Roy Bishop gave a lecture on "Navigation".
- November: Dr Philip Bennet with "What do you really know about the long-period eclipsing binary epsilon Auriga?".
- December: AGM and "Who wants to be a Gazer?".

This year Nova East, our regional star party, was a very special one, not only for its world famous guest speakers, David Levy and Kathryn Gray, but also because it was hurricane-free. Yes, it is hard to believe, but the Organizing Committee was unable to schedule it in conjunction with a hurricane this year. My most sincere thank-you to the Nova East Organizing Committee, Blair MacDonald, Quinn Smith, the Minas Astronomy Group, and Smiley's Provincial Park Staff, for their hard work in planning, organizing and holding this year's Nova East. Also special thanks to this year's very special quest speakers, David Levy, and Kathryn and Paul Gray.

I would like to acknowledge and thank the following organizations and people for their continue support:

- Minas Basin Pulp & Power Company for the outstanding support they provide toward SCO, our observatory located on half an acre lot with water frontage.
- Jamie Carmichael for his daily security checks at SCO.
- Saint Mary's University, who provide us with meeting rooms and logistic support each month.
- Stephen Payne and Dalhousie University for running a successful planetarium program.
- Brian Giffin Atlantic Photo Supply for having graciously provided us free space and logistic support at the Saltscapes East Coast Expo.
- Wayne and Liz Schuman of Darwin Event Group for supplying us a free booth at the RV show.

I will like to also pass along our appreciation to Colleen Anderson, Ursula Johnson, Cathy Leblanc, and Ashley Moffat of Parks Canada, who worked hard to maintain and enhance Kejimikujik National Park's Dark Sky Preserve certification. In that regard; I will like to thank, in particular, Dave Chapman and Quinn Smith, for having conducted the Dark Sky Preserve lighting audit, this summer.

However; I must admit that all was not

rosy this year. As most of us already know, we have suffered the lost of our last President, Richard Vanderberg. He passed away on July 27th 2012 after a long battle with cancer. Previously, he was the president of the Edmonton Centre for two years, and our President last year.

Richard was a quiet and a remarkable man with countless abilities and a wide range of interests. Beside astronomy, he loved music, railroad modeling, was a writer, taught political studies at numerous Universities, and during the 1960 American Presidential Election, ran the Wyoming headquarters for John F. Kennedy's campaign.

Richard had accomplished much in his life and had a positive influence on all he touched. He will be remembered and he will be missed by all of us. A service will be held in his honor in the spring and we will inform the membership once we have additional information in that regard.

I would also like to recognize, what I personally call our guardian angels; members who were not part of the Executive as such, but whose presence and support was always nearby. In no particular order, Dr Roy Bishop, Dave Lane, Chris Young, Blair MacDonald, Dave Chapman, Mary Lou Whitehorne, and Wes Howie. Your support was always greatly appreciated.

Before I move on, I would like to thank all the Executive, Councils and the membership who have supported our Center and have made possible another successful year. Since memory is the only faculty that forgets, I would like to apologize to all the people and organizations I have missed.

I would like to remind all present that when we go the election part of our meeting, that it is a democratic process and you don't have to accept the nominations that are put before you. If you want to put your name or nominate a person for a position that is already filled, please do so. We will have a vote and let democracy prevail.

## 2012 Financial Report

Ian Anderson (Treasurer)

November 2012

I am pleased to report a very large surplus of \$3,143.45 for 2012. Most of this was from Nova East, late in the year. Regular membership levels have improved slightly albeit within a new lower range, while most of our "projects" drew considerably under budget which enabled the Halifax Centre to finish the year with outstanding results, despite heavy depreciation of observatory items.

As treasurer I have adhered to my program of reduced valuations of non-liquid assets which continued in fiscal '12. Early in the year we agreed on a modest budget which was under-drawn in many categories. In most respects it was a quiet year. Insurance for directors and officers preoccupied us mid-season. Later our discussion turned to new legislation regarding non-profit associations like ours.

Although Nova East was an ambitious and expensive affair this year as it sometimes is, participation was strong as a good number attended Smiley's Provincial Park. By the time we had our Saturday morning auction of donated items, fears of finishing in the red had already been allayed. The result was probably the most truly profitable NE in 26 years.

Finally, we were saddened by the loss of our recent president and friend Richard Vanderberg in July. He finessed his role as leader with courage and style from mid 2010 through 2011. He had been with the RASC and a member of other centres since 1977.

Respectfully submitted,

*Ian R. Anderson*

Ian R. Anderson  
Treasurer, Halifax Centre  
RASC

## Highlights of the 2012 Income Statement

### REVENUE:

**Membership Fees \$2,904.18:** At year-end f2012, membership stood at 128 regular, 1 youth and 22 lifers for a total of 151, with 15 associates attached. Revenues for the year are represented by similar figures. This compares favourably with 2011, but still off the pace of years ago.

**Donations \$660.00:** An anonymous donation of \$500 for SCO was received in memory of Clint Shannon. \$160 was from 4 other donors.

**Educational Activities \$510.00:** Tuition income from the Nova Course as instructed by Sean Dzafovic.

**Interest \$163.18:** \$151.15 accrued in GICs, \$10.42 on a money market account (closed in July), and \$1.61 from our bank account. In 2013 this figure should be higher still - up from a low in 2010 of \$7.72.

**Sales of Merchandise (Gross) \$871.00:** Solar filter film sold in May and at Nova East (again) made up \$169.00. As usual, Society calendars and a few SCO 2012 calendars made up most of the remainder.

**Nova East (net) \$2,296.62:** A more ambitious and expensive NE for 2012. Registration fees were hiked to compensate. The 50-50 auction broke NE records since the goods were mostly donated and not already owned by the centre. This year's fiscal highlight!

**Printed Nova Notes Subscriptions Earned \$186.51:** This amount was calculated and transferred from un-earned to earned income. \$153.34 was received in renewed pre-paid Nova Notes subscriptions.

### EXPENSES:

**Meetings (Treats) \$211.29:** Pat Kelly did an excellent job of keeping the goodies expense well within the

\$25 per meeting range suggested in our budget to start the year.

**Newsletter \$261.97:** Actual expenses for the printed newsletter outpace earned income by about 40% (53% in 2011). The cost for five issues could easily be priced in the \$17.00 range if the program were to pay for itself - but we've agreed to hold the current \$12 for the foreseeable future.

**Asset Depreciation \$1,259.58:** A 10% depreciation taken on existing observatory assets.

**Equipment and Supplies \$237.31:** We spent a lot more on things like transit goggles, moon maps, star maps and such. These were generally handed out for free.

**Office Administration \$200.72:** This expense is back where it should be.

**Educational Activities (Outreach) \$158.00:** A bit of a sleeper this year. It would seem as if this took a bit of a break. An example of a grossly under-subscribed budgeted expense.

**Insurance \$1,164.00:** This goes up with a dose of inflation every year.

**Awards and Donations \$110.95:** This is the value (cost to us) of a calendar presented to our October Speaker, and the value of prizes awarded to winners of the December Gazer quiz after the AGM.

**Observatory - Operating \$192.49:** Another sleeper. I was expecting a lot of spending on the Observatory to fulfil some dreaming we did last year, but a quiet year is a quiet year. Taxes at SCO were \$29.14 this year - up 3.3% over 2011. Electrical upgrades at year-end were capitalized.

**Miscellaneous Expenses \$118.28:** Again the vast majority of this is International Dark-Sky Association (IDA) annual dues of \$111.83. The rest are adjustments associated with US\$ denominated receipts.

<b>INCOME STATEMENT</b>	<b>2012</b>	<b>2011</b>	<b>Change</b>
<b>REVENUES</b>			
Membership fees	\$ 2,904.18	\$ 2,691.04	\$ 213.14
Donations (incl. NE)	\$ 660.00	\$ 551.46	\$ 108.54
Educational Activities	\$ 510.00	\$ 870.00	\$ (360.00)
Interest	\$ 163.18	\$ 76.53	\$ 86.65
Merchandise sales (gross)	\$ 871.00	\$ 1,283.83	\$ (412.83)
Nova East (net)	\$ 2,296.62	\$ 651.24	\$ 1,645.38
Nova Notes Pr. Sub Earned	\$ 186.51	\$ 134.99	\$ 51.52
Miscellaneous	\$ 1.40	\$ 11.20	\$ (9.80)
<b>Total Revenues</b>	<b>\$ 7,592.89</b>	<b>\$ 6,270.29</b>	<b>\$ 1,322.60</b>
<b>EXPENSES</b>			
Meetings (Treats)	\$ 211.29	\$ 240.82	\$ (29.53)
Nova Notes	\$ 261.97	\$ 206.54	\$ 55.43
Cost of Goods sold	\$ 506.26	\$ 667.58	\$ (161.32)
Equipment & Supplies	\$ 237.31	\$ 7.46	\$ 229.85
Office Administration	\$ 200.72	\$ 679.23	\$ (478.51)
GA & NO Meetings in TO	\$ 0.00	\$ 195.48	\$ (195.48)
Educational Outreach	\$ 158.00	\$ 1,384.10	\$ (1,226.10)
Legal Expenses	\$ 28.59	\$ 28.03	\$ 0.56
Insurance	\$ 1,164.00	\$ 1,138.00	\$ 26.00
Awards & Donations	\$ 110.95	\$ 594.62	\$ (483.67)
Observatory - Operating	\$ 192.49	\$ 180.85	\$ 11.64
Depreciation & Write-offs	\$ 1,259.58	\$ 1,021.37	\$ 238.21
Miscellaneous Expenses	\$ 118.28	\$ 129.71	\$ (11.43)
<b>Total Expenses</b>	<b>\$ 4,449.44</b>	<b>\$ 6,473.79</b>	<b>\$ (2,024.35)</b>
<b>Net Income (Deficit)</b>	<b>\$ 3,143.45</b>	<b>\$ (203.50)</b>	<b>\$ 3,346.95</b>

Financial Report continues on page 6



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PO Box 31011, Halifax, Nova Scotia, B3K 5T9

E-mail: [novanoteseditor@rasc.ca](mailto:novanoteseditor@rasc.ca) Newsletter editor: Quinn Smith

Nova Notes is published 5 times a year, in February, April, June/July, September/October and December.

The deadline for the next edition is March 15th 2013

The opinions expressed herein are not necessarily those of the Halifax Centre.

Articles on any aspect of Astronomy and Allied Sciences will be considered for publication.

## Highlights of the 2012 Balance Sheet

### ASSETS:

**Cash \$6,715.04:** On September 30<sup>th</sup> 2012, our cash balance at the TD Bank was \$7,152.32. 3 cheques were outstanding at \$894.99. Revenue from National Office for September was known to be \$457.71.

**Investments \$13,000.00:** The Halifax Centre held on September 30<sup>th</sup> three GICs with the TD Bank yielding between 1.5% and 1.65% on principles totalling \$13,000. They mature in June and October of 2013, and July 2015. We retired our money market account this year, earning 0.4% annual return, it was thought a poor place for the Centre's funds.

**Merchandise Inventory \$118.92:** Estimated value of remaining solar filter material at cost.

**Estimated Library \$2,077.28:** This grew by three books purchased.

**Observatory Equipment \$12,092.24:** Little added to this asset category - again reflecting my surprise at this being a budgetary sleeper. The category shed \$1,259.58 since 2011 in a 10% depreciation. At the 11<sup>th</sup> hour, a \$754.98 electrical upgrade of the facility was added to this valuation.

**Estimated Miscellaneous \$176.33:** New in 2012: 2 coffee urns stored at SCO for NE and other events.

### LIABILITIES:

**Prepaid Nova Notes Printed Subscriptions \$68.40:** Subscriptions to printed issues have fallen off in the second half of 2012 which is why this amount is reduced from last year.

### EQUITY:

**Nova East Reserve Equity \$5,000.00:** This reserve has been capped at \$5,000.

**Common Equity \$29,177.19:** Represents \$193 in equity per member, growth this year exceeded 12%.

These figures were subjected to an internal audit in December 2012 and accepted as filed.

Please consult the full 2012 Treasurer's Report for details of the centre's financial activity for 2012.

The Report is available to any member of the Centre upon request.

BALANCE SHEET	2012	2011	Change
<b>ASSETS</b>			
Cash	\$ 6,715.04	\$ 6,220.72	\$ 494.32
Merchandise Inventory	\$ 118.92	\$ 100.05	\$ 18.87
Investments	\$ 13,000.00	\$ 10,097.08	\$ 2,902.92
Accrued Interest	\$ 65.78	\$ 59.08	\$ 6.70
Library Est'd	\$ 2,077.28	\$ 2,016.29	\$ 60.99
Observatory Capital Equ.	\$ 12,092.24	\$ 12,596.84	\$ (504.60)
Miscellaneous Est'd	\$ 176.33	\$ 45.25	\$ 131.08
<b>Total Assets</b>	<b>\$ 34,245.59</b>	<b>\$ 31,135.31</b>	<b>\$ 3,110.28</b>
<b>LIABILITIES</b>			
Prepaid Nova Notes Pr.	\$ 68.40	\$ 101.57	\$ (33.17)
<b>Total Liabilities</b>	<b>\$ 68.40</b>	<b>\$ 101.57</b>	<b>\$ (33.17)</b>
<b>EQUITY</b>			
NE Working Equity	\$ 5,000.00	\$ 5,000.00	\$ 0.00
Common Equity	\$ 29,177.19	\$ 26,033.74	\$ 3,143.45
<b>Total Equity</b>	<b>\$ 34,177.19</b>	<b>\$ 31,033.74</b>	<b>\$ 3,143.45</b>
<b>Total Liab &amp; Equity</b>	<b>\$ 34,245.59</b>	<b>\$ 31,135.31</b>	<b>\$ 3,110.28</b>

## Auditor's Report

Dave Lane

To the members of the RASC Halifax Centre,

I have examined the financial records for the period October 1, 2011 to September 30, 2012. I believe that the Balance Sheet prepared by the treasurer presents an accurate account of the financial position of the Centre as of September 30, 2012.

I have also looked closely at the Income Statement, the Report of the Treasurer, and the substantiating records and receipts and have not found anything of major concern. As a result of a recommendation that I made last year, improvements were made to providing more detail for some revenue items, particularly Nova East.

And finally, I am mentioning again below a recommendation provided in the audits for the last three fiscal years. My understanding is that some work has been done on this, but has not yet been resolved:

The Centre maintains a commercial insurance policy to provide property damage and liability protection for the St. Croix Observatory. The insurable limits represent roughly the cost of materials when the buildings were built in the late 1990s. In the meantime, the cost of construction materials has increased considerably and I believe it also unlikely that, in the event of a major loss, the free labour talent available when it was built could be mustered today. Therefore, I recommend that the management examine what it would cost to replace the buildings without relying substantially on volunteer labour and adjust the policy accordingly.

Clear skies,  
David Lane, Auditor

## "Quick Tips"

### Member's Astronomy Tips

Need a new case for your binoculars? Try an MEC Globetrotter Shoulder Bag! (See <http://tinyurl.com/b8mr6pg>) I had an old (but good) pair of binoculars, but the original cardboard-and-vinyl case started falling apart from being left out on dewy nights too many times. Replacement cases are hard to come by, and expensive. Then I found a great bag at Mountain Equipment Co-op, for \$19. The binos easily fit, the material is rugged and water-resistant, and there are extra pockets for small stuff. I can even put the shell of my old case inside for extra rigidity!



*From: "The Frugal Astronomer."*

When using a red light inside a building it is quite common for the light bulb to be too bright (especially the new florescent bulbs). Rather than having to fit a dimmer switch (not always possible) I made a fire proof shade out of a food can. I simply drilled and filed a hole in the closed end of the can, so



*From: "Cheap at half the price"*

that it would fit over the screw-in end of the bulb. There you go an instant fix for stray light!

## "Gazer"

Paul Heath

Come stand with us beneath the darkened sky,  
And look once more, upon the myriad campfire lights,  
that drew us once from caves at night.

Come stand with us beneath the sparkling skies,  
And search with cautious stares,  
for those mysterious beasts,  
that drew us forth from tents at night.

Come stand with us beneath star strewn skies,  
And stare with wonder, to where the Gods abound,  
this drew us out from halls of stone,  
into the night.

Come stand with us beneath our galaxies light,  
And gaze and gaze at those far distant lights,  
For this indeed has drawn us forth,  
out into the night,  
to be a Gazer of All, these wondrous sights.

### Front Page Photo: Dave Chapman

The clouds foiled my attempt at capturing Venus and the Moon (33h before New) this morning. The following photo is as close as I got, during a momentary lapse in cloud cover. Venus would have been behind the houses!

January 10th 2013, 6:54 a.m.  
Canon XSi, ISO 200, 300 mm,  
f/5.6, 4 s,

## Annual General Meeting

Robert Bussieres

The meeting was held in the Atrium Building at room AT101, and was called to order at 8:00 p.m. by Centre President, Robert Bussières, who also chaired the meeting.

He welcomed all 21 attendees to the last meeting for this year or for the rest of eternity, (depending on what comes first, the end of the year or the end of the world). He then proceeded to encourage participation in the upcoming Quiz Show “Who wants to be a Gazer”, and explained its rules and regulations. Moving on, he addressed the two visitors at the meeting, and enumerated all the advantages that can be gained by becoming an RASC member. Robert noted that the only equipment that is considered compulsory, in order to be accepted as a member, is a functioning brain, and to be able to name our Moon.

### Business section of the Annual General Meeting.

#### Approval of the Agenda.

The agenda for the meeting was approved, the motion was moved by Paul Heath, seconded by Mary Lou Whitehorne, motion passed.

#### Approval of the 2011 Annual General Meeting Minutes as published in Nova Notes February 2011.

The minutes of the 2011 Annual General Meeting were approved without any alteration. The motion was moved by Quinn Smith, seconded by Mary Lou Whitehorne, motion passed.

#### Annual Reports from the Executive (see pages 9-10)

#### Election of Auditor

David Lane volunteered his service as Auditor for the period October 1, 2012 to September 30, 2013. His nomination was collectively endorsed by all present.

#### Consideration of any matter proposed to be adopted by the Centre.

Robert gave the floor to Quinn Smith who had an announcement for the Centre. He began by informing the audience that every year RASC National has a General Assembly. Paul Gray stated that the General Assembly is the yearly National Society meeting to get together and to do its annual business. This event is normally hosted by a Centre, where all members of the 29 Centres located across the country are invited to participate. The main goals are to get together, be entertained by guest speakers, and share views and knowledge. The hosting Centre is the coordinating entity and has to provide volunteers and organises all events from registration tables, to transportation to and from the airport (if and when required). It is a great time and also a busy time.

Quinn stated that the Halifax Centre is considering submitting a proposal to the National to host the 2015 General Assembly in Halifax. This corresponds to our 60th anniversary. We have looked at 3 possible places to hold this event: Acadia University, Mount St Vincent University and Saint Mary’s University. After much research the Organizing Committee has chosen Saint Mary’s University. They will be able to provide us with 112 beds and all the required facilities. We will be holding the event from the 2<sup>nd</sup> to the 5<sup>th</sup> of July 2015.

In regard to the financial side of this proposal, we expect to break even or even make a small profit.

Two motions had been presented to the Executive which were unanimously accepted.

He stated that he would like to have a vote from the Annual General Meeting audience for the endorsement of these two motions. Quinn read the first motion to the audience, and he stated that the acceptance of this motion will obligate us to host this event, if our submission is accepted by the National Office.

#### Motion 1:

“That the GA 2015 Committee of the Halifax Centre of the RASC formally submit an application to RASC National to host the 2015 General Assembly, and by so doing, the Halifax Centre agrees to host the 2015 GA if the application is approved by National Council.”

Motion 1 was formally tabled by Quinn Smith and seconded by Pat Kelly. The motion was collectively passed.

#### Motion 2:

“That the Halifax Centre set aside a working fund of \$5,000 to prepare for the 2015 GA.”

Some supplementary information was provided to the audience and after some discussions, Motion 2 was formally tabled by Quinn Smith and seconded by Pat Kelly. The motion was collectively passed.

#### Call for the Nomination of the 2013 Executive:

Robert listed all of the nominees to-



*Five Gazers gazing—and a partridge in a pear tree!*



gether with their positions. He also reminded all present that this was a democratic process and they did not have to accept the nomination that was put before them. He stated that if anyone wanted to put his / her name, or nominate a person for a position that is already filled, to do so at this point. We would have a vote and let democracy prevail.

President – Paul Heath  
1st Vice President – Vacant  
2nd Vice President – Karl Penney  
Secretary – Chris Young  
Treasurer – Ian Anderson  
Nova Note Editor – Quinn Smith  
National Representative – Pat Kelly  
Librarian – Graham Rose  
Observing Chair – John Liddard  
Observing Chair Assistant – Alex Le-Creux  
Councilor – Sean Dzafovic  
Councilor – Wesley Howie

Since there were no other nominations, the listed nominates were put to a vote. All were unanimously elected to their requested position.

#### **Motion to the Floor:**

A motion was moved by Frank Hendbee, seconded by Mary Lou Whitehorne, that the RASC Halifax Centre membership confirm and ratify all actions taken and decisions made by the Halifax Centre executive committee from date of the 2011 annual meeting to the date of the 2012 annual meeting (December 2012).  
The motion was collectively carried.

#### **Motion to adjourn:**

Motion to adjourn the business side of the meeting was moved by Patrick Kelly, seconded by Paul Heath. Motion passed.

#### **Quiz Show part of the evening.**

Robert reinstated the rules and regulations of the games and provided the audience with a small example on how the game was to be conducted. Once the game was completed and all the prizes had been provided to the winning participant, the meeting was closed and refreshment and treats were made available.

## **AGM Executive Reports**

### **Editor**

**President's Report:** Robert Bussieres  
(Report on page 3)

**Treasure's Report:** Ian Anderson  
(Report on pages 4-6)

**Nova East Report:** Blair MacDonald  
(This report was printed in the December edition of Nova Notes on page 3)

**2nd Vice President:** Karl Penney  
This year was a quiet one. I was not able to organize any public observing sessions due to both weather and other time commitments.

We have received the 40 RASC calendars that were ordered in October. Half of which were given to David Tindall to sell at Dalhousie. I believe all of them have been sold.

I have some statistics on the number of hits for the online Nova Notes. These do not include direct links to the PDF for anybody that might have it bookmarked.

Jul. issue – 64 hits; Oct. issue – 61 hits; Dec. issue – 45 hits.

#### **Observing Chair:** John Liddard

I have not made any progress with respect to the insurance evaluation of our facilities at SCO. I have had numerous conversations with a number of contractors, all willing to provide us with an assessment of cost to rebuild, yet none of them have committed the time to visit the site, even though we have offered to pay for their time. I have only recently read the minutes from the November meeting, for which I was absent. In November's minutes it was suggested that we contact a professional estimator, if we do not have any success with a contractor.

I have tried contacting appraisers but their prime focus is on market value estimations for mortgage approvals. I tried contacting an engineering firm that was suggested by our Insurance agent but their phone is no longer in service. If anyone has knowledge of

such an organization, or person that can provide us with the type of assessment that we need please pass their contact info to me and I will pursue. I have been in contact with Superior Propane, asking them to have a look at our furnace but they require us to first create an account and complete a credit application before they will send someone out to SCO. I will forward the credit application to our Treasurer once it has been received. I will also contact Irving to see what service/ options they may provide as an alternative.

I want to thank Ian for attending to the repair of the generator. The cost of repair was very reasonable and it will be great to have it functioning again. I will include its up keep as part of the duties in maintaining SCO. I will purchase our traditional gift certificate of \$100.00 for Jamie Charmichael and see that it delivered later in the week. I look forward to discussions regarding improvements of SCO and think facilitating meetings there is a wonderful idea that we should not pass by. It would be great to develop increased membership participation at SCO in 2013.

**Nova Notes Editor:** Quinn Smith  
Nova Notes continued in its regular format throughout 2012, edited by (the usually absent) yours truly! It was primarily delivered in an electronic format through the Halifax Centre web site. There were a total of 5 editions compiled in 2012; February, April, June/July, September/October, and December, and I think this is called "quintannually".

Although mainly delivered electronically, several members have opted to receive a printed version at a cost to the member of \$12 per year. On average there were 14 printed copies sent out per month with a received revenue of \$168 (14 x \$12). The expenses during this period (2012) were \$192 resulting in a net cost to the Centre of \$24 (I'm sure that Ian will have more accurate numbers). I am not sure that all new members realize that they can receive Nova Notes electronically for

free - and I think we should add this fact to the National registration info. It is my suggestion that we continue to offer a printed Nova Notes to the few members that request them and keep the yearly fee at \$12.00.

This year I have added a couple of new articles: "*Quick Tips*" and "*Featured Astro-photographer of the Month*", and would like to ask readers to support these articles by submitting tips, suggestions and photos. I would also like to thank Dave Chapman for continuing to proof read each edition and only get mildly frustrated at my repeated grammatical errors. Finally I would like to thank all members who have submitted articles, photos, and suggestions, and to everyone who has supported Nova Notes by actually reading the newsletter!

**Nova Program:** Sean Dzafovic

The third session of the NOVA Program was run in 2011-2012. Initially 14 people were signed up, but this dropped to 5 or 6 regulars by the end of the course. As far as I can tell, and using information from Ian Anderson, no NOVA attendees used the price break to become members.

Only one NOVA attendee has completed the Exploring the Universe Certificate - Graham Rose, and he was a first year attendee.

The NOVA Program was not run for the current year (2012-2013) due to employment considerations. I am still unsure of whether or not I will do one next year (2013-2014). I still have the PowerPoint slides and other materials if anyone is interested in running the course.

**Councilor:** Paul Heath

I organized and presented Library talks as RASC Library Coordinator: 21 talks with the help of 6 speakers. Many thanks to the following; Dave Chapman / Chris Young / Pat Kelly / Paul Bowman / Tony Schellinck.

I trained and became qualified to give Planetarium shows: presented to 4

Brownie and Cub groups.

Trained for and began to give tours at BGO.

Joined the Board of Directors for the Young Naturalist Club as the RASC representative: organized three astronomy talks, and two Planetarium shows for them.

Conducted astronomy talks for four Grade 6, and one Early Learning class, plus astronomy activities for a school Spring Fair.

Completed two astronomy presentations for the Fundy Tidal Interpretive Centre, one in August at the Interpretive Centre, and one at Cresthaven B & B.

Did Astronomy presentations at ten summer youth day camps.

Did Astronomy presentations at Dollar Lake, and Porters Lake Provincial Parks.

Did four astronomy talks at the Discovery Centre during Astronomy Week.

Assisted at the RV and Saltscapes shows, and Jeff's astronomy night in Enfield.

Helped with astronomy talks for Keji's Dark Sky Weekend.

Helped with talks and sky tours for Nova East.

The most fun was helping out with the Scout's Canada ISS contact at the Keshen Goodman Library.

Participated in RASC monthly Executive meetings and with WHAT'S UP talks at RASC meetings.

Over all, a fairly busy year.

**National Rep:** Pat Kelly

Over the last year the National Office has been producing a lot of member recruitment and retention material for the Centres, as well as streamlining a lot of processes to make membership services work more smoothly. The National Council has been focusing most of its efforts on making changes to the Society so that it will comply with the new Canadian Non-for-Profit Corporation Act. The single biggest change that members will see is that the governing body will no longer be a National Council made up of representatives from the Centres. Instead, all

members will elect a Board of Directors. The other major change is that fee increases will no longer be voted on by the membership; instead, they will be set by the Board. Both of these changes are required by the new act. The plan is also to try and meet the new requirements while retaining as much of the way the Society traditionally worked. To that end, there will still be a National Council advisory body, similar to the existing National Council, that will act as an advisory role to the board.

**Outreach:** Quinn Smith

Let me first thank Paul Heath who has, by far, pretty much carried the Outreach program by himself, and to Karl Penney who has organized many of the public observing sessions. Paul has managed the Halifax Library Talks program, and even presented some of the talks himself. He has also worked with, and presented at, the Discovery Centre and the Planetarium. Karl has been the driving force behind many of the public observing sessions held in, and around, Halifax.

Along with the public observing sessions that have taken place in Halifax, many members have hosted their own observing session within their local communities. Some of our members even participated in the Transit of Venus outreach events in other provinces (clouded out in Nova Scotia)

The Halifax Centre has continued to support the Planetarium and several of our members have given shows throughout the year. According to Stephen Payne, who runs the Planetarium, there will be approximately 3,000 visitors to the Planetarium this year (compared to 3,600) last year.

## January Meeting Report

Chris Young

The Centre President, Paul Heath, opened the meeting with the poem "Stars" by Robert Frost. Paul intends to start each meeting with a poem to awaken both our hearts and intellect for the meeting. Despite slippery roads and cold weather, 33 members and 3 visitors attended the meeting. The new 2013 Executive was introduced, with the 1st VP position being open for a volunteer.

Blair, the Nova East Chair, invited members to propose activities they would like to have at NE. Please send Blair an email of any topic, workshop or adventure you might like to happen on our late summer Star Party. For the benefit of those attending, Nova East was described (with the usual wet weather references) .

Paul then introduced the speaker for the evening, Dr Michael Palmer, who gave a presentation on "Star Formation in Merging Galaxies". Michael has a B.Sc. (Astronomy & Physics) from SMU and an M.Sc. (Physics & Astronomy) from the University of Victoria. He grew up here in NS and is now residing here in HRM.

Merging galaxies and their interactions have drastic effects on the galaxies involved in both their physical shape and their chemistry. The Milky Way Galaxy has absorbed other smaller galaxies and may one day merge with the larger Andromeda Galaxy. Michael studied these types of interactions based on spectroscopically selected galaxies from the Sloan Digital Sky Survey. These were then put through a number of filters, simulations and analysis. The results compared favourably with those of another group out of Germany. Star formation increases dramatically when the galaxies first get close and merge, then drops off as they begin to part, and later, spikes again as the distance increases. The study distance went to 80

kiloparsecs, (about 2 galaxy diameters) and is thought to take about a billion years. The study that Michael was involved in suggests that the increased star formation takes place in the bulge portion of the galaxy rather than the outer disk area. This is thought to be due to the influx of hydrogen, into the metals-richer (helium or heavier) area of the bulge. The increase in star formation is believed to be directly related to the increase of the mass of the galaxies involved. The talk included photographs of different pairs of galaxies in varying states of interaction to physically illustrate the terms, graphs, and study results presented.

The amount of star formation due to this activity is believed not to be significant in the overall ongoing star formation in the universe, but is important in our understanding of galaxy behaviour. In discussion about our upcoming collision with the Andromeda Galaxy, Michael felt that our Solar System would not likely suffer a catastrophe, this due to the enormous distances between stars, and that gas movement, would be the main effect.

The talk was initially challenging to grasp but came together and raised a round of questions from the audience. Paul Heath thanked Michael for his talk, and expressed our appreciation in



*Dr Michael Palmer*

gaining a little more insight into how the universe works.

The presentation at the February meeting will be by Mary Lou Whitehorne who will describe the solar eclipse in (and her trip to) warm Australia.

Following a reminder of the sidewalk observing at Atlantic Photo Supply's Burnside location on January 21st, the meeting adjourned a little after 9:30 p.m. for refreshments and further conversation with our speaker. It was well worth the trip on a cold night!



*Merging galaxies NGC 4676 (Hubble Space Telescope)*

## Cosmic Debris

### Odds and Sods from the world of astronomy and astrophysics

Science@NASA Jan. 18, 2013:

Out near the orbit of Jupiter, a faint speck of light is moving through the black of space. At first glance it does not look like much, no brighter than a thousand distant stars speckling the velvet sky behind it; indeed, it takes a big telescope make out that it is a comet.

But what a comet it could turn out to be....

Later this year, "Comet ISON" could blossom into a striking naked eye object visible even in broad daylight.

"Comet ISON is a sungrazer," explains Karl Battams of the Naval Research Lab. "The orbit of the comet will bring it very close to the sun, which we know can be a spectacular thing."

Russian astronomers Vitali Nevski and Artyom Novichonok found the comet in September 2012. It bears the name of their night-sky survey program, the International Scientific Optical Network.

As 2013 unfolds, the comet is still very far away—near the orbit of Jupiter. That's why it looks like a speck. "But for an object at such extreme distance, it is actually very bright," says Battams. The comet's glow suggests that is spewing gas and dust from a fairly large nucleus—"in the 1 to 10 km range," estimates Matthew Knight of the Lowell Observatory.

On Nov. 28, 2013, this "dirty snowball" will fly through the sun's atmosphere little more than a million km from the stellar surface. If the comet survives--a big IF--it could emerge glowing as brightly as the Moon, briefly visible near the sun in broad daylight. The comet's dusty tail

stretching into the night sky could create a worldwide sensation.

Some reporters have started calling ISON the "Comet of the Century," but Don Yeomans of NASA Near-Earth Object Program thinks that's premature.

"I'm old enough to remember the last 'Comet of the Century,'" he says. In 1973, a distant comet named Kohoutek looked like it would put on a great show, much like ISON. The actual apparition was such a let-down that Johnny Carson made jokes about it on the Tonight Show. "It fizzled," says Yeomans. "Comets are notoriously unpredictable."

"Comet ISON has the potential to live up to the hype, but it also has the potential to do nothing," agrees Battams.

One hazard is the Sun. Tidal forces and solar radiation have been known to destroy comets. A recent example is Comet Elenin, which broke apart and dissipated in 2011 as it approached the sun. Elenin, however, was a much smaller comet.

A better comparison, perhaps, is Comet Lovejoy, which flew through the sun's atmosphere in 2011. Lovejoy emerged intact and wowed observers with a garish tail for weeks.

"Comet ISON is probably at least twice as big as Comet Lovejoy and

will pass a bit farther from the sun's surface" notes Knight. "This would seem to favor Comet ISON surviving and ultimately putting on a good show.

One of the most exciting possibilities would be a partial break-up. "If Comet ISON splits, it might appear as a 'string of pearls' when viewed through a telescope," speculates Battams. "It might even resemble the famous Comet Shoemaker-Levy 9 that hit Jupiter in 1994."

A break-up would pose no threat to Earth, assures Yeomans. "Comet ISON is not on a collision course. If it breaks up, the fragments would continue along the same safe trajectory as the original comet."

Whatever happens, northern sky watchers will get a good view. For months after it swings by the sun, Comet ISON will be well placed for observers in the northern hemisphere. It will pass almost directly over the North Pole, making it a circumpolar object visible all night long.

Will Comet ISON fizzle ... or sizzle? Stay tuned to Science@NASA for updates.

*Author: Dr. Tony Phillips, Production editor: Dr. Tony Phillips, Credit: Science@NASA*

