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

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ANNUAL REPORT  
RAPPORT ANNUEL

2014

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# ROYAL ASTRONOMICAL SOCIETY OF CANADA—2015

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## Officers

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Secretary:	Dr. Karen Finstad	<a href="mailto:nationasecretary@rasc.ca">nationasecretary@rasc.ca</a>
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	Dr. Paul Schumacher	<a href="mailto:docpschu@shaw.ca">docpschu@shaw.ca</a>
Past President:	Glenn Hawley	<a href="mailto:glennhawley@shaw.ca">glennhawley@shaw.ca</a>
Journal Editor:	Jay Anderson	<a href="mailto:editor@rasc.ca">editor@rasc.ca</a>
Observer's Handbook Editor:	Dave Chapman	<a href="mailto:dave.chapman@ns.sympatico.ca">dave.chapman@ns.sympatico.ca</a>
Observer's Calendar Editor:	Paul Gray	<a href="mailto:snpgray@gmail.com">snpgray@gmail.com</a>

## 2014 - 2015 Committees

Awards:	Glenn Hawley	<a href="mailto:glennhawley@shaw.ca">glennhawley@shaw.ca</a>
Constitution:	Colin Haig	<a href="mailto:astronome@outlook.com">astronome@outlook.com</a>
Education and Public Outreach:	Robyn Foret	<a href="mailto:arforet@shaw.ca">arforet@shaw.ca</a>
Finance:	Denis Grey	<a href="mailto:denis.j.grey@gmail.com">denis.j.grey@gmail.com</a>
History:	Randall Rosenfeld	<a href="mailto:rosenfel@chass.utoronto.ca">rosenfel@chass.utoronto.ca</a>
Information Technology:	Craig Levine	<a href="mailto:craigslevine@gmail.com">craigslevine@gmail.com</a>
Light-Pollution Abatement:	Robert Dick	<a href="mailto:rdick@ccs.carleton.ca">rdick@ccs.carleton.ca</a>
Membership and Development:	Roland Dechesne	<a href="mailto:dechesne@telusplanet.net">dechesne@telusplanet.net</a>
Nominating:	Dr. Chris Gainor	<a href="mailto:cgainor@shaw.ca">cgainor@shaw.ca</a>
Observing:	Alan Whitman	<a href="mailto:agwhitman@vip.net">agwhitman@vip.net</a>
Publications:	Colin Haig	<a href="mailto:astronome@outlook.com">astronome@outlook.com</a>

## Centre Representatives on National Council

Belleville:	Don Town	Prince George:	vacant
Calgary:	Heather Laird	Québec:	Pierre Desrosiers
Calgary:	Roger Nelson	Regina:	Peter Hagar
Charlottetown:	Mike Critchley	St. John's:	Marcellus Redmond
Edmonton:	Ross Sinclair	Sarnia:	Joe Clements
Halifax:	Pat Kelly	Saskatoon:	vacant
Hamilton:	Mark Pickett	Sunshine Coast:	Mike Bradley
Kingston:	Kim Hay	Thunder Bay:	Brendon Roy
Kitchener-Waterloo:	Rick Burke	Toronto:	Eric Briggs
London:	Peter Jedicke	Toronto:	Rajesh Shukla
Mississauga:	Leslie Strike	Toronto:	Laila Zichmanis
C. F. de Montréal:	Patrice Scattolin	Vancouver:	Doug Montgomery
Montréal:	Frank Tomaras	Victoria:	Mark Bohlman
New Brunswick:	Mandy Bregg	Windsor:	Michael Mastronardi
Niagara:	vacant	Winnipeg:	Jennifer West
Okanagan:	Richard Christie	Unattached:	Randall Rosenfeld
Ottawa:	Rick Wagner		
Ottawa:	Bill Wagstaff		

# PRESIDENT'S MESSAGE

The RASC is in good hands—let's state that from the outset. The Board of Directors have met a couple times in person, and a few times online, since being elected in the summer of 2014 and have gelled into a working group dedicated to the well-being and forward movement of our Society. Our paid staff at the Society Office do great work to keep the RASC running smoothly. We strive to do all things well. Sometimes we attain that lofty goal and at other times we struggle, but we “keep calm and chive on.”

## Some good things we've accomplished:

- We successfully transitioned our governance model from the National Council being the “official” Board, to a true Board of Directors.
- At the recommendation of the Awards Committee, we instituted a new class of award, Fellow of the RASC (FRASC).
- We searched for and hired a new Executive Director, Randy Attwood, FRASC.
- For the first time, the Plaskett Lecture was live-streamed to the General Assembly from Scotland. Dr. Andrew Pon's talk was well received and very informative, and it formed the basis for a *Journal* paper.
- The Society implemented a new Sponsorship Program for corporate sponsors.
- We re-visited our Vision, Mission, and Values statements to bring them closer to what we truly value.
- We instituted a new web-based meeting program called WebEx, which can be used by groups as large as Council, and as small as three or four people, to conduct meetings.
- We wrote letters of support for the James Clerk Maxwell Telescope and the Thirty Metre Telescope.
- New Enhanced Membership packages are available on our e-Store.
- First steps were taken to publish a *Guide to the 2017 Total Solar Eclipse*.

- The Society sponsored a table at AstroCATS in Hamilton.
- The RASC published jointly with *SkyNews* an 8-page booklet *Getting Started in Astronomy*—60,000 copies so far!
- The electronic *Observer's Handbook* is now available to members as a PDF download.
- The Society began sponsorship for the *Clear Sky Charts* created and maintained by Ottawa member Attila Danko. We are one of the top sponsors.
- The Board decided to abandon the plan to re-publish the *Beginner's Observing Guide* (BOG), but to replace it with a new publication, a *Guide to the Explore the Universe* certificate program, written by Toronto member Brenda Shaw. This new work will likely form the basis for a re-invigorated NOVA program.
- A new publication on small observatories is forthcoming soon, compiled by Sunshine Coast member Charles Ennis.
- We now pay honoraria to editors of revenue-earning publications (*Handbook*, *Calendar*, and *Journal*). Plus, a budget is in place for the editors to recognize the volunteer contributors and production teams of these publications.

## A not-so-good thing:

- The Charlottetown Centre has dissolved due to low membership levels. We now have 28 Centres, although membership generally is on the rise (a good thing).

What makes all the good things possible is the support, both financially and spiritually, of members and volunteers like you. We at the Board level only guide “the ship” along, trying to avoid shoals, and keeping an even keel in the main channel. We can be thankful that, 147 years later, our beloved Society continues to thrive.

Clear skies!

**James Edgar**  
*President*

# EXECUTIVE DIRECTOR'S REPORT

It is my pleasure to write my first report as Executive Director of the Society.

Our first Executive Director, Deborah Thompson, helped to steer the Society through various required governmental changes, which affected our governance structure. Since early September 2014, when I assumed the role, we have focused on three areas: improving membership retention, increasing *Observer's Handbook* sales, and expanding fund-raising initiatives.

For the upcoming year, I intend to work with the Board, the Council, and Centre Executives to improve the way we provide services to members, run our outreach programs, and promote the Society.

None of this would be possible without our dedicated, hard-working, and professional office staff, Renata Koziol and Julia Neeser.

**Randy Attwood**  
*Executive Director*

# SECRETARY'S MESSAGE

There have been two different National Secretaries in 2014, as I took over from James Edgar at the end of June. Together we recorded fourteen Board meetings, three Council meetings and one General meeting, modified the Policy Manual nine times, collected several dozen reports, and attempted to keep 15 email lists current and up to date.

During the course of the year, Public Speaker Program grants were made to Calgary, Halifax, Ottawa, and the Sunshine Coast Centres, for a total of six speaking events. In November, the Board approved changes to the program, which allowed funding for events up to one year in advance of the date of application rather only for the current calendar year, and to expand eligible expenses to include 50% of professional speaker's fees up to maximum of \$500.

These changes are expected to increase the program participation levels in the future.

We extend our condolences to the families and friends of the following members who passed away in 2014: Barry Boyd (Calgary), Dr. John Knight (Ottawa), Ben Llewelyn (St. John's), Maria Schmid (Victoria), Vern Richards (Windsor), Rod Clark (Windsor), Bud Fairley (Winnipeg), Osao Shigehisa (Unattached), James Fell (Unattached), Blaine F. Roelke (Unattached).

The Society wishes to acknowledge the passing of long time but not current members: Richard Bochonko (Winnipeg), Antoine Fils-Aime (Ottawa), Father William Lonc (Toronto), Nelson Teske (Vancouver).

## Membership Statistics 2004-2014

**Karen Finstad**  
*National Secretary*

Centre	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Belleville	28	31	30	31	37	26	32	35	33	32	29
Calgary	434	381	336	282	271	300	317	313	278	302	323
Charlottetown	7	13	20	19	25	24	24	22	21	20	19
Edmonton	274	277	229	235	260	257	258	255	241	261	267
Halifax	170	169	153	154	159	155	157	162	152	171	197
Hamilton	109	103	78	61	66	70	76	80	82	91	91
Kingston	72	75	66	66	74	90	98	106	125	128	110
Kitchener-Waterloo	130	109	115	106	115	116	118	104	101	127	127
London	129	110	126	104	118	97	101	104	99	112	115
Mississauga	188	168	132	123	120	127	120	103	53		
C.F de Montréal	18	16	18	20	22	24	23	28	32	32	30
Montréal	117	109	110	91	87	103	107	99	105	109	108
New Brunswick	77	66	68	68	66	75	79	88	78	75	70
Niagara	73	62	69	69	71	82	97	104	101	114	123
Okanagan	124	115	106	92	116	103	88	86	85	83	85
Ottawa	343	319	325	328	370	389	410	416	396	447	469
Prince George	57	66	63	69	64	64	79	67	82	75	40
Québec	18	16	20	19	17	17	35	44	40	39	38
Regina	94	80	75	62	62	52	48	55	53	47	53
St. John's	57	58	47	44	45	48	47	52	49	51	44
Sarnia	20	12	11	15	15	19	24	25	27	27	32
Saskatoon	73	68	70	70	72	71	71	78	76	70	67
Sunshine Coast	50	43	32	38	35	32					
Thunder Bay	45	51	50	46	46	44	37	41	40	39	41
Toronto	869	782	611	573	554	502	506	610	622	748	841
Vancouver	217	198	226	228	244	251	263	256	238	267	291
Victoria	202	176	163	164	166	185	173	188	177	186	192
Windsor	96	84	90	100	96	96	98	94	89	105	122
Winnipeg	221	210	178	180	168	162	169	157	136	132	140
Unattached	431	428	446	419	434	459	530	561	512	538	591
Honorary	15	15	15	14	11	15	15	14	15	15	14
<b>Total</b>	<b>4760</b>	<b>4410</b>	<b>4062</b>	<b>3957</b>	<b>3995</b>	<b>4040</b>	<b>4216</b>	<b>4347</b>	<b>4138</b>	<b>4443</b>	<b>4655</b>

### Membership by Type

Type	Number	% of Total
Ordinary	3720	78.4
Family	598	12.6
Life	305	6.4
Youth	122	2.6
Honorary	(15)	n/a

### Membership by Country

Country	Number	% of Total
Canada	4528	95.4
USA	186	3.9
Other	31	.7

# TREASURER'S MESSAGE

The Society recorded an operating surplus in 2014 of \$11,188 on revenues of \$464,417 or 2.4%. Our revenue decreased overall by \$38,120 over 2013 as a large return on our investments combined with a significant bequest offset reductions in most other sources of revenue.

Specifically, our investment portfolio returned an income of \$64,079—a decrease of \$18,043 from 2013's returns. Membership revenues were up slightly (\$885) and publications revenues from our *Observer's Handbook* and *Observer's Calendar* were up (\$2,896). The Society received a significantly lower amount of donations revenue in 2014 (\$12,301) as no major donations or grants were received during the year. In addition, the end of life of the *Beginner's Observing Guide* meant that our revenues from this publication were down by \$3,496.

On the expense side, our management and volunteers continue to manage our costs for the publication of the *Observer's Handbook*, *Journal*, and *Observer's Calendar* very well. Our overall Cost of Goods Sold was down by \$4,096. On the distribution front, recent increases in Canada Post charges flowed through during the 2014 year but changes to our mailing and distribution services helped to reduce the impact of these increased costs.

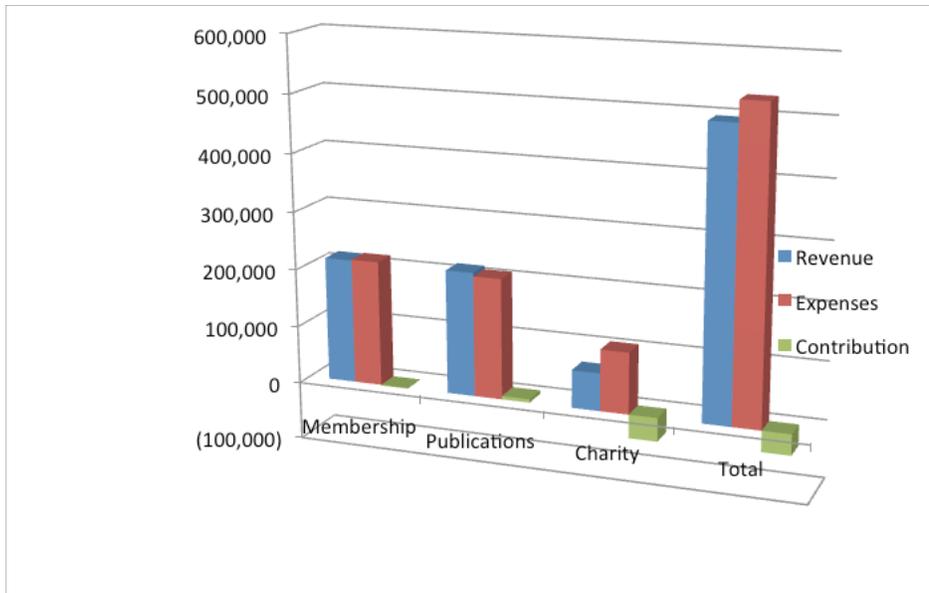
As a Registered Charity, the Society is permitted to run ancillary businesses but such business activity must not take resources away from our charitable aims. Our membership and publications business must therefore be run on a break-even basis each year.

Our 2015 budget is summarized below. Our Membership business segment is expected to run a small deficit which we hope to offset by new sources of membership-related revenues and the recently announced fee adjustment by the end of the year. The publications business is expected to make a positive contribution in 2015, however, this is dependent upon the successful introduction of several new publications which are currently in development.

Our charitable programs are expected to run a deficit of approximately \$36,161 which represents the application of donations received in prior years to our charitable programs. The Society supports the advancement of astronomy through various programs including our publications, speaker's support, education and public outreach (EPO) programs, and other activities. Membership fees are expected to account for 43.5% of the Society's overall revenue in 2015, while publications will contribute 43.3% and charitable donations and investment income about 13.2%.

I would like to acknowledge the assistance of our my fellow Board members who are part of the Finance Committee and Society staff in assisting me with carrying out this responsibility on behalf of the Society.

**Denis Grey**  
*Treasurer*



# AUDITOR'S REPORT

## *Tinkham & Associates LLP*

### CHARTERED ACCOUNTANTS

*D C Tinkham, B Comm, CMC, FCA*  
*Associates*  
*P J Brocklesby, BBA CA*  
*M Tkachenko, BBA, CA*  
*O B File, Ba, CA*  
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To the Members of  
THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA

We have audited the accompanying financial statements of The Royal Astronomical Society of Canada/La Société Royale D'Astronomie Du Canada, which comprise the balance sheet as at 2014 December 31 and the statements of revenue and expenses, changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

#### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not-for-profit organizations and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

#### **Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified audit opinion.

#### **Basis for Qualified Opinion**

In common with many charitable organizations, the Society derives revenue from donations, the completeness of which is not susceptible of satisfactory audit verification. Accordingly, our verification of these revenues was limited to the amounts recorded in the records of the Society and we were not able to determine whether any adjustments might be necessary to donation revenue, excess of revenues over expenses for the year, assets or unrestricted net assets.

#### **Qualified Opinion**

In our opinion, except for the possible effects of the matter described in the Basis for Qualified Opinion paragraph, the financial statements present fairly, in all material respects, the financial position of the Society as at 2014 December 31, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

TORONTO, Ontario  
2015 March 7

*Tinkham & Associates LLP*  
LICENSED PUBLIC ACCOUNTANTS

# BALANCE SHEET

As at December 31	2014	2013
<b>Assets</b>		
Current		
Cash	\$ 122,115	\$ 96,212
Accounts receivable	40,021	22,179
Inventory	19,475	21,327
Prepaid expenses	10,315	10,020
	<b>191,926</b>	<b>149,738</b>
Long Term		
Investments (note 4)	1,090,980	1,102,550
Capital assets (note 5)		
Tangible assets	1,264	1,913
Intangible assets	37,421	47,451
	<b>\$ 1,321,591</b>	<b>\$ 1,301,670</b>
<b>Liabilities</b>		
Current liabilities		
Accounts payable and accrued charges	\$ 33,187	\$ 38,125
Deferred revenue		
Membership fees for ensuing years	118,274	105,963
<i>Journal</i> subscriptions	19,657	15,224
Unamortized life membership fees (note 6)	29,152	32,225
	<b>200,270</b>	<b>191,537</b>
<b>Net Assets</b>		
Unrestricted	621,985	644,120
Internally restricted (note 8)	499,336	466,013
	<b>1,121,321</b>	<b>1,110,133</b>
	<b>1,321,591</b>	<b>1,301,670</b>
Commitment (note 7)	<i>See accompanying notes to financial statements</i>	

On Behalf of the Board

  
 \_\_\_\_\_  
 President

  
 \_\_\_\_\_  
 Treasurer

# STATEMENT OF CHANGES IN NET ASSETS

	Internally Restricted (note 8)	Unrestricted	2014	2013
Year ended December 31				
Balance, beginning of year	\$ 466,013	\$ 644,120	\$ 1,110,133	\$ 1,052,326
Excess of expenditures over revenue for the year		11,188	11,188	57,807
Transfers (note 8)	33,323	(33,323)	-	-
Balance, end of year	\$ 499,336	\$ 621,985	\$ 1,121,321	\$ 1,110,133

*See accompanying notes to financial statements*

# STATEMENT OF REVENUE AND EXPENDITURE

Year ended December 31	2014	2013
<b>Revenue</b>		
Membership fee revenue	\$ 178,370	\$ 177,485
Publication revenue		
<i>Observer's Handbook</i>	76,260	76,260
<i>Observer's Calendar</i>	47,662	45,288
<i>Journal</i>	35,748	36,211
Shipping and Handling	27,584	28,078
<i>Beginner's Observing Guide</i>	2,195	5,691
Educational Aids	2,713	2,170
Other	674	1,163
	<b>193,358</b>	<b>194,861</b>
Miscellaneous income		
Donations	18,626	30,927
Other income	5,336	11,839
Promotional products	4,648	5,303
	<b>28,610</b>	<b>48,069</b>
Investment Income (net)		
Gain on investments	47,834	61,071
Interest and dividends	30,839	33,276
Investment manager fees	(14,594)	(12,225)
	<b>64,079</b>	<b>82,122</b>
<b>Total Revenue</b>	<b>464,417</b>	<b>502,537</b>
<b>Expenditures</b>		
Publication costs		
<i>Journal</i>	40,686	40,166
Cost of publications sold	24,895	28,921
Freight and handling costs	26,001	25,080
<i>Observer's Handbook</i>	568	531
	<b>92,150</b>	<b>94,698</b>
Operating costs		
Office salaries and employee benefits	141,368	142,546
Membership services	65,125	72,401
Services	33,913	32,791
Travel expenses	33,538	24,319
Office expenses	26,207	23,406
Committees	23,338	20,233
Occupancy	17,294	17,779
Advertising and marketing	6,215	6,479
Amortization of capital assets	10,697	5,694
Cost of promotional items sold	3,385	4,384
	<b>361,079</b>	<b>350,032</b>
<b>Total Expenditures</b>	<b>453,229</b>	<b>444,730</b>
Excess of revenue over expenditures	\$ 11,188	\$ 57,807

See accompanying notes to financial statements

# STATEMENT OF CASH FLOWS

Year ended December 31	2014	2013
<b>Cash provided (used) by operating activities</b>		
Excess of revenue over expenditures for the year	\$ 11,188	\$ 57,807
Charges not requiring a current cash payment		
Amortization of capital assets	10,697	5,694
Amortization of life membership fees	(3,073)	(1,696)
	<b>18,812</b>	<b>61,805</b>
Changes in non-cash working capital components		
Accounts receivable	(17,842)	15,669
Inventory	1,852	4,148
Prepaid Expenses	(295)	2,967
Accounts payable and accrued liabilities	(4,937)	(13,224)
Deferred revenues	16,744	(8,857)
	<b>14,334</b>	<b>62,508</b>
<b>Cash provided (used) by investing activities</b>		
Purchase of investments (net)	11,569	(92,884)
Purchase of capital assets	-	(42,263)
	<b>11,569</b>	<b>(135,147)</b>
Increase (decrease) in cash during the year	<b>25,903</b>	<b>(72,639)</b>
<b>Cash, beginning of year</b>	<b>\$ 96,212</b>	<b>\$ 168,851</b>
<b>Cash, end of year</b>	<b>\$ 122,115</b>	<b>\$ 96,212</b>

# NOTES TO FINANCIAL STATEMENTS

2014 December 31

## 1. Organization

The Royal Astronomical Society of Canada (“the Society”) is a Canadian corporation without share capital and a registered charitable organization, incorporated for the purpose of stimulating interest in and promoting astronomy and related sciences. The organization is not subject to income taxes pursuant to exemptions accorded to registered charities in the income tax legislation.

## 2. Significant accounting policies

These financial statements have been prepared by management in accordance with Canadian accounting standards for not-for-profit organizations.

### (a) Cash

Cash includes cash on hand and deposits in financial institutions.

### (b) Investments

The Society has elected to value all investments at fair value, which is based on quoted market values.

### (c) Inventory

Inventory is comprised of publications and promotional items for re-sale and is carried at the lower of cost and net realizable value. Cost is determined on an average cost basis.

### (d) Capital assets

Capital assets are recorded at cost. Cost comprises the purchase price and any directly attributable cost of preparing the asset for intended use.

A capital asset is tested for impairment whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. An impairment loss is recognized in the statement of revenue and expenses when the carrying amount of the asset exceeds the sum of the undiscounted cash flows resulting from its use and eventual disposition. The impairment loss is measured as the amount by which the carrying amount of the capital asset exceeds its fair value. An impairment loss is not reversed if the fair value of the capital asset subsequently increases. As at December 31, 2014, no such impairment exists.

Amortization has been determined using a straight-line basis over the estimated useful lives as follows:

Tangible assets: Computer hardware - 3 years  
Office furniture - 10 years

Intangible assets: Software - 5-10 years

### (e) Revenue recognition

#### (i) Membership fees

Membership fees received in the first half of the year are recognized during the current year. Those received in the second half of the year are recorded as deferred revenue and recognized in the following year. The organization previously offered life memberships to members. Life memberships received in prior years were credited to unamortized life membership fees liability account, as per Note 6. Five percent of the life membership fund is transferred at the beginning of each year to membership fees revenue.

#### (ii) Contributions

The organization follows the deferral method of accounting for contributions. Unrestricted contributions are recognized as revenue when received or receivable, if the amount to be received can be reasonably estimated and collection is reasonably assured.

#### (iii) Investment Income

Investment income is recognized on an accrual basis. The unrealized gain or loss on investments, being the difference between cost and fair value, is recognized in investment income for the year.

#### (iv) Subscriptions and publications

*Journal* subscription revenues are amortized into income over the subscription period. Publications are recognized as revenue when shipped.

### (f) Contributed services

The organization is dependant on the voluntary services of many individuals. The value of donated services is not recognized in these financial statements

(g) Management estimates

The preparation of financial statements in accordance with Canadian accounting standards for not-for-profit organizations requires management to make estimates that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Significant estimates include the impairment of accounts receivable and the useful lives of capital assets. All estimates are reviewed periodically and adjustments are made to the statement of operations as appropriate in the year they become known.

(h) Financial instruments

(i) Measurement

The Society initially measures its financial assets and financial liabilities at fair value. The Society subsequently measures all its financial assets and financial liabilities at amortized cost except for its investments which are measured at fair value. Changes in Fair value are recognized in the excess of revenue over expenditures for the year.

Financial assets measured at amortized cost include cash and accounts receivable. Financial liabilities measured at amortized cost include accounts payable and accrued charges.

(ii) Impairment

At the end of each reporting period, the Society assesses whether there are any indications that a financial asset measured at amortized cost may be impaired. When there is an indication of impairment, the Society determines whether a significant adverse change has occurred during the period in the expected timing or amount of future cash flows from the financial asset and it reduces the carrying amount of the asset to the highest of the following: i) the present value of the cash flows expected to be generated by holding the asset discounted using a current market rate of interest appropriate to the asset; ii) the amount that could be realized by selling the asset at the statement of financial position date; and iii) the amount the Society expects to realize by exercising its rights to any collateral held to secure repayment of the asset net of all costs necessary to exercise those rights. The carrying amount of the asset is reduced directly or through the use of an allowance account. The amount of the reduction is recognized as a bad debt in the statement of revenue and expenses. When the extent of impairment of a previously written-down asset decreases and the decrease can be related to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed to the extent of the improvement, directly or by adjusting the allowance account. The amount of the reversal is recognized in the statements of revenue and expenses in the period the reversal occurs.

(iii) Transaction costs

Transaction costs are recognized in the statements of operations in the period incurred, except for financial instruments that will be subsequently measured at amortized cost. Investment management fees associated with the ScotiaMcLeod managed portfolio are expensed as incurred.

### 3. Helm Fund

The Society is trustee of an endowment fund created by Mr. Walter J. Helm (a former Royal Astronomical Society of Canada member) who passed away 1960 June 5. In his will he provided a bequest to the Society that was to be used by the Society to support the general purposes of the David Dunlap Observatory (DDO) in Richmond Hill, Ontario. Under the terms of a 2010 court interpretation the income of the Helm Fund is presently being applied in support of on-going public education programs at the DDO site.

Total assets of the fund under administration by the Society at 2014 December 31 are 140,395 (2013—\$134,441) and are excluded from the Society's financial statements.

### 4. Investments

	2014	2013
Managed portfolio at Scotia McLeod		
Fixed income investments	\$ 555,579	\$ 554,190
Canadian equity investments	342,019	398,110
US equity investments	147,281	127,917
Cash	43,664	19,255
Accrued interest and dividends receivable (net)	2,437	3,078
	<b>\$1,090,980</b>	<b>\$ 1,102,550</b>

The actively managed portfolio with ScotiaMcLeod includes 12 fixed income investments (2013—8 investments) comprised of government and corporate bonds with an average yield to maturities of 2.71% (2013—3.10%), stated interest rates ranging from 1.75% to 5.53% (2012 1.75% to 5.00%), maturing from 2015 September 8 to 2024 December 6 (2013—2015 September 8 to 2019 April 15).

The Canadian equity investments include share and trust units of 29 Canadian entities (2013—34 Canadian entities). The single largest holding is 357 shares of Royal Bank of Canada with a market value of \$35,939 (2013—359 shares of Toronto-Dominion Bank with a market value of \$35,939).

The U.S. equity investments include share and trust units of 30 entities (2013—24 entities). The single largest holding is 80 shares of CVS Health Corporation with a market value of \$7,705 US\$ (2013—124 shares of J.P.Morgan Chase & Co. with a market value of \$7,252 US\$)

The fixed income and equity investments have been recorded at market value based on information provided by ScotiaMcLeod.

## 5. Capital assets

		2014 Accumulated Cost Amortization		2013 Accumulated Cost Amortization
<b>Tangible Assets</b>				
Computer hardware	\$ 8,157	\$ 7,644	\$ 8,157	\$ 7,131
Office furniture	1,542	792	1,542	638
Library	1	-	1	-
	\$ 9,700	\$ 8,436	\$ 9,700	\$ 7,769
Net book value		\$ 1,264		\$ 1,931
<b>Intangible assets</b>				
Software	61,593	\$ 24,172	61,593	\$ 14,142
Net book value		\$ 37,421		\$ 47,451

## 6. Unamortized life membership fees

	2014	2013
Life membership fees as of January 1	\$ 32,225	\$ 33,921
Deduct: Amortization to income	(3,073)	(1,696)
Balance, December 31	\$ 29,152	\$ 32,225

## 7. Commitment

The Society has extended its existing lease agreement for office premises extending to 2016 February 28. The minimum annual payments required under the lease, excluding an estimate of the proportionate share of property taxes, maintenance and insurance for the premises, for fiscal 2015 is \$9,051 and 2016 is \$1,523.

## 8. Internally restricted net assets

The Society has internally restricted certain funds. The Ruth Northcott Fund was established in 1969 and funds are used for a variety of specified purposes as approved by the Board of Directors related to public education and outreach. The P.M. Millman Endowment Fund was established in 1990 for the purpose of providing for the long-term growth of the Society. The Public Speaker Program Fund was established in 2009 to encourage Centres to organize and host public talks by speakers from outside their local area about astronomical related topics.

In 2014, the Board of directors approved the transfer of the remainder of the bequest from the estate of the late Walter Feibelman into the Ruth Northcott Fund. The Feibelman bequest was used in large part to fund the Society's activities during the International Year of Astronomy in 2008 and 2009.

An amount equal to the investment income for the year is transferred to all funds annually on a proportionate basis. All disbursements from these funds must be approved by the Board of Directors.

<b>Schedule 1: Internally Restricted Net Assets</b>					2014	2013
	Public Speaker Program Fund	W. Feibelman Fund	Ruth Northcott Fund	P.M. Millman Endowment Fund	Total	Total
Fund balance, January 1	\$ 11,674	\$ 67,475	\$ 114,348	\$ 272,516	\$ 466,336	\$ 431,342
Transferred from Unrestricted net assets:						
Interest	674	-	10,495	15,730	26,899	33,962
Donations	3,379	-	3,300	1,290	7,969	5,654
Expenses	(1,545)	-	-	-	(1,545)	(4,495)
Transfer	-	(67,475)	67,475	-	-	-
	2,508	(67,475)	81,270	17,020	33,323	34,671
Balance, December 31	\$ 14,182	\$ -	\$ 195,618	\$ 289,536	\$ 499,336	\$ 466,013

## 9. Financial instruments

The Society is exposed to various risks through its financial instruments. The following analysis provides a measure of the Society's risk exposure and concentrations.

### Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The Society is exposed to credit risk through its cash, accounts receivable and investments. Credit risk related to cash is minimal as funds are fully insured and held by credit-worthy parties. Accounts receivable are generally unsecured. The investment policy requires diversification of investments within categories, and sets limits on exposure to individual investments.

### Liquidity risk

Liquidity risk is the risk that the Society will not be able to meet a demand for cash or fund its obligations as they come due. The Society meets its liquidity requirements by ensuring adequate cash is maintained and investments are available to be converted to cash if and when required.

### Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk is comprised of currency risk, interest rate risk and other price risk.

### Currency risk

Currency risk reflects the risk that the Society's earnings will decline due to the fluctuations in foreign exchange rates. The Society has cash and investments denominated in U.S.\$ totalling \$209,148 at 2014 December 31 (2013—\$135,123). The exchange rate used to convert US\$ assets at 2014 December 31 is \$1 US = \$1.1601 Cdn. (2013—\$1.0636 Cdn).

### Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Society is subject to interest rate risk to the extent of its fixed income investments and cash on deposit with financial institutions that earn interest at market rates. The Society manages its exposure to the interest rate risk of its cash by maximizing the interest income earned on excess funds while maintaining the liquidity necessary to conduct operations on a day to day basis. Fluctuations in market rates of interest on cash do not have a significant impact on the Society's results of operations.

The primary objective of the Society with respect to its fixed income investments is to ensure the security of principal amounts invested, provide for a high degree of liquidity, and achieve a satisfactory investment return.

### Other price risk

Other price risk refers to the risk that the fair value of financial instruments or future cash flows associated with the instruments will fluctuate because of changes in market prices (other than those arising from currency risk or interest rate risk), whether those changes are caused by factors specific to the individual instrument or its issuer or factors affecting all similar instruments in the market.

The Society is exposed to other price risk because of its equity investments.

### Changes in risk

There have been no changes in the Society's risk exposures from the prior year.

# ANNUAL MEETING MINUTES—2014

## THE ROYAL ASTRONOMICAL SOCIETY OF CANADA LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA

Minutes of the Annual General Meeting Held Sunday, 2014 June 29 at 9:00 PDT, in Victoria, British Columbia

Board members attending: Glenn Hawley as Outgoing President (GH), James Edgar as Incoming President and Outgoing National Secretary (JE), Karen Finstad as Incoming National Secretary (KF), Colin Haig as 1st Vice President (CH), Chris Gainor as 2nd Vice President (CG), Paul Gray as Outgoing Director (PG), Craig Levine as Director (CL), Paul Schumacher as Director (PS). Absent: Denis Grey as Treasurer, Randy Boddam as Incoming Director.

The meeting was called to order at 9:08 PDT by the Chair, RASC President Glenn Hawley, who welcomed members, delegates, and guests to the 2014 Annual General Meeting and thanked the Victoria Centre for hosting the 2014 General Assembly. President Hawley called the roll of Centres—19 out of 29 Centres were represented, with Unattached Members, observers, and guests present—approximately 71 in attendance.

### 1. Minutes of the 2013 Annual General Meeting

MOTION AGM1401 Moved by James Edgar, seconded by Don Town, that the Minutes of AGM 2013 be adopted as presented in the Annual Report.

MOTION AGM1401 was CARRIED

### 2. Reports of Officers

#### President (Glenn Hawley)

In passing guidance of the “ship” to incoming President James Edgar, Glenn Hawley expressed his belief that the Society has now passed by the reefs and we are set for clear sailing; navigating by the stars.

#### 1st Vice-President (Colin Haig)

In addition to tabling his written reports (Finance, Constitution and Publication Committees), Colin Haig expressed his pleasure at being able to work with many wonderful volunteers including the hard-working editors of our Publications; he also thanked those who maintain the Web site, manage the office and handle media appearances. The Kitchener-Waterloo Centre was commended for efforts to amend their Centre By-laws.

#### 2nd Vice-President (Chris Gainor)

The remarks of the 1st VP were reinforced, with special note given to the efforts of the Victoria Centre in saving the “Centre of the Universe” facility and planning and presenting the General Assembly. As Chair of the Nominating Committee he briefly recapped the results of this year's election, and expressed a hope that next year's election will be a contested one, given that only eight nominations were received for the nine positions open this year. The 2nd VP closed his remarks with an appreciation of the visits to Centres made by Board members during the last year and hopes these will continue as an effective means of engaging members with the activities of the Board of Directors.

#### Secretary/Recorder (James Edgar)

The Secretary began with a report on the Public Speaker Program, which was made use of by 14 Centres in the past year. James then asked those present to stand and pause for a minute of silence to honour those Society members who had died in the previous year, naming: Dr. John Vandermeulen (Halifax); Anthony Marano, Edmund Archambault (Niagara); John Peter Knight (Ottawa); Dr.

Allan Pengelly, Gordon Anthony, Prof. Richard Jarrell (Toronto); Sally Baker (Vancouver).

Finally, the incoming Secretary, Karen Finstad was thanked, as was Catherine Berry of Halifax for her work in producing our Annual Reports for the last several years.

#### Treasurer (Denis Grey)

The Treasurer's report was presented by Colin Haig on behalf of Denis Grey. From the written report it can be seen that the Society's investments have performed better than expected, and this has offset operational cash flow problems and a very tight budget for Membership support. He went on to summarize sections dealing with the Auditor's report, Committee budgets, employer matching programs for donations, and the Helm fund.

Questions from the members clarified issues on membership numbers vs. membership revenue (reporting schedule is out of sync so these may not appear to match up in the current statement), re-investment of interest income (yes, this is done), and the specific stipulations of the legacy that is the source of the Helm Fund. A suggestion by Dave Chapman that publication revenues and expenses be detailed for each individual publication in future reports will be taken back to the Finance Committee.

MOTION AGM1402 Moved by Colin Haig, seconded by Don Town, that the audited financial statements be approved as submitted. MOTION AGM1402 was CARRIED.

#### Executive Director (Deborah Thompson)

reported on a busy and transformational year with a focus on growth, following the Strategic Plan made in 2013, and benefiting from solid financial management. A new Marketing Co-ordinator Julia Neeser, has joined the staff. The Society welcomed 4513 members, and new initiatives in the areas of donations, awards, membership database, sponsorship, promotional packs, a Getting Started Guide, exit survey, and Youth Astronomy Groups. She ended a concise report by thanking the Victoria Centre for a well-planned and executed General Assembly.

### 4. Reports of Permanent Committees

#### Awards (Mary Lou Whitehorne, Chair)

In the Chair's absence the report was presented by James Edgar, who also passed along thanks from Mary Lou for her own Service Award. A new award for long service was introduced this year, the RASC Fellowship.

#### Constitution (Colin Haig, Chair)

We are now into the new era mandated by changes in federal legislation for not-for-profit corporations. Our new By-laws still need minor edits having to do with role definitions. Amendments to provincial legislation in Ontario have been delayed yet again. All Centres should make sure they are in compliance as these and other legislation changes come into effect.

#### Education & Public Outreach (Robyn Foret, Chair)

Members were referred to the written report for details of the Committee's activities, including the Discover the Universe program in collaboration with CASCA. Robin Foret noted that more volunteers and committee members were needed, including a new Board of Directors liaison. Clarification was provided in response to a question on the status of non-RASC members such as a CASCA liaison being listed as committee members; in fact they should be listed as consultants.

A spontaneous discussion of the proposed new publication, “*Getting Started in Astronomy*” erupted at this point. Questions were raised as to purpose, content, production and distribution with a request for a chance to have the Observing Committee review content, and a flag raised on the issue of who will retain copyright if the content is to be provided by *SkyNews* as planned. Robin Foret was able to return to matters pertaining to the EPO Committee in response to a question on the progress of an initiative to have Centres report online to the rest of the Society on their Public Outreach events. He reported this is working well for those who use it, though in future modifications may be required to the methods of gathering feedback.

#### **History (Randall Rosenfeld, Chair)**

Thanks were given to Robert Dick of Ottawa Centre for donating his personal collection of video recordings featuring RASC speakers to the archive. These will be digitized (thanks to Bill Wagstaff also of Ottawa) for posting to the RASC YouTube channel. Randall Rosenfeld concluded with a request for donations of historical material, and expressed his philosophy that history and the archives should be considered as a practical resource and not simply locked away. Chris Becket was singled out with thanks for his work as Chair of the Observing Committee and for valuable collaborations with the History Committee.

#### **Information Technology (Ryan May, Chair)**

In the Chair’s absence, Colin Haig presented the highlights of the written report. Credit was given to the web site team for restructuring the home page and much content, including a new section for members in the news; he also acknowledged Dave Lane and St Mary’s University for hosting and administration of the site. Budget-wise, a \$6000 burden (annual rental fee of a photocopier) has thankfully been lifted; kudos to Craig Levine for arranging a very low cost replacement from TUC Southwest Ontario. Colin pointed out that the IT team does a lot of work behind the scenes, maintaining tools and offering quick response times to deal with security issues being one such area.

#### **Light-Pollution Abatement (Robert Dick, Chair)**

The committee is pursuing its goals through their web page and distribution of outreach materials in coordination with the Education Committee, with results already noted in the form of influence within the International Dark Sky Association, etc. Future plans include increased exposure through social media and participation in international meetings. Robert noted that such efforts reflect well on the RASC and its profile, though the practical effects in the wider world may not be apparent for some years.

#### **Membership & Development (Roland Dechesne, Chair)**

The committee did not table a written report; instead Roland’s paper, *The Role of Social Media and Advertising in Growing your Centre* as presented yesterday provides the results of experiments with various social media, and attempts to measure and compare the effectiveness of such media. He invited personal contact from Centres who seek advice based on these studies, and also invited them to link to the now-resurrected FaceBook page for the National Society, and to watch for a planned Dark Sky page as well. New members for this committee were invited to volunteer.

#### **Nominating (Chris Gainor, Chair)**

Details of the nomination process and election have already been provided in the 2nd VP’s report, and more details may be found

in the written report of this Committee. Colin Haig named and thanked all members of the Committee for their efforts.

#### **Observing (Chris Beckett, Chair)**

An innovative video report for the Observing Committee has been posted to the YouTube channel. Chris mentioned the Committee is looking for new ideas for observing programs, especially if they have already been fleshed out and tested in the Centres, giving the double-star observing program as an example.

#### **Publications (Colin Haig, Chair)**

Colin Haig noted that much of the material in his written report has been covered here already, but added that the committee is looking for ideas for new revenue-generating publications. Along those lines, help is needed on the kickstarter campaign for the *2017 Eclipse Observing Guide*. There is a need to get this out quickly and there is already an outline for a 60 – 80 page publication. Many good ideas have come from Jay Anderson, but a leader for the project is needed. Additional new publications could include collections of JRASC articles such as the “*Orbital Oddities*” book, or possibly a collection about “*Small Canadian Observatories*”, just as a suggestion. Volunteers were requested to take on these projects with a gratifying immediate response from the members present.

#### **5. Election of Board of Directors**

Outgoing President Glenn Hawley reminded members that the election has already taken place since it was held electronically (or would have been, if any of the positions had been contested). In addition to Glenn Hawley, PG is leaving the Board of Directors. New members RF and Karen Finstad will join the existing members to make a full complement of nine. James Edgar was introduced as the new President to a warm round of applause, not necessarily the result of his stated intention to make Guinness the Official Drink of the RASC. He also said he felt humbled to take on the role in the presence of so many illustrious Past Presidents.

#### **6. Election of Auditor**

There was little or no discussion on the question of retaining our current auditing firm for another year, as their performance and fees have been satisfactory.

MOTION AGM1403 Moved by Colin Haig, seconded by Glenn Hawley, that Tinkham, LLP, be appointed as Auditor for 2015. MOTION AGM1403 was CARRIED.

#### **7. Other business**

A proposed By-law amendment to the purpose of minor edits in role descriptions for the Board of Directors, Secretary and President was determined to be out of order following a point-of-order question by Randy Attwood, since insufficient notice had been provided to the membership. The amendment was withdrawn.

PS announced schedule details for the remainder of the day.

#### **8. Adjournment**

MOTION AGM1404: Moved by Ross Sinclair at 11:30 AM PDT, that the meeting adjourn.

#### **Karen Finstad**

*National Secretary*

# ANNUAL REPORTS FROM THE CENTRES

## BELLEVILLE CENTRE

January	Guest speakers: David Cotterell—“Occultation of Regulus by Asteroid 163 Erigone, March 20, 2014” Demonstration of Lynkeos software program. Selection of David Cotterell’s most recent astrophotos.
February	Speaker: Randy Boddam—“Comet ISON Post-mortem” Speaker: David Cotterell—“What to Look at Tonight.” Double Star Presentation for Beginners featuring SkySafari software.
March	Discussion on space news from past 2 months. Solar video.
April	Quinte Regional Science Fair tomorrow. Belleville Centre donates \$200 for prizes. Astro-news from last month. President Greg Lisk to be presented with an award at the RASC General Assembly in Victoria, BC in June. Speaker: David Billo—“My New Telescope for Astrophotography.” Speaker: Greg Lisk—“Observing Mars with Filters and Advice on How To Do Sketching.”
May	AstroCats in Hamilton tomorrow Speaker: Robert Bates—“Latest Astrophotos.” Photos from NEAF Lunar eclipse—clouded out.
May 10	Astronomy Day, Quinte Mall.
May 23/24	Observing night. The “New” meteor shower in Camelopardalis. Not much of a meteor shower. Video—“Betelgeuse.”
June	Speaker: Don Town—“The Mysterious Degradation of the Apollo Reflector Arrays.” Observing night: June 20. President Greg Lisk presented with RASC Service Award at General Assembly in Victoria, BC.
July	Guest speaker: David Cotterell—“European Southern Observatory, Chile.” Astrophotos from Chile. Astrophotos by Robert Bates. StarBQ—6 members present.
July 19	Starfest, August 21-23, 7 members attending.
August 21	Bon Echo Provincial Park public observing
August 30	Speaker: Greg Lisk—Photos from General Assembly. Speaker: Don Town—Photos from General Assembly.
August 13	Perseids meteor shower observing.
September	Astronomy news from past month. Speaker: Greg Lisk—“Zenith Telescope.” Greg Lisk: “Photos from Starfest 2014 and RASC General Assembly, Victoria, BC. Fall’n Stars 2014 Star Party (RASC Belleville/ Kingston centres).
October	Astronomy news from last month.

	Guest speaker: David Cotterell—“Okie-Tex Star Party.”
October 23	Partial lunar eclipse
November	Observing reports.
November 14	Observing night—Leonids meteor shower. Greg Lisk: “Partial lunar eclipse photos.”
December	Last month in astronomy news. Rosetta spacecraft’s Philae Lander on Comet 67P/Churyumov-Gerasimenko November 12., Speaker: Randy Boddam—“Kennedy Space Center.” Annual Xmas Dinner—18 attending.

**Joanne Burns**  
*Secretary*

## CALGARY CENTRE

2014 was another very active year for the Calgary Centre.

Our Public Outreach efforts realized 58 public events, some over multiple evenings, with 7,538 members of the public attending.

Centre Members also continued to show support to our communities of interest, the University of Calgary, Alberta Provincial Parks, the Town of Vulcan & the Vulcan Trek Centre, and the National Parks.

Member’s events throughout the year included the Annual Members Banquet, the Member’s Bar-B-Q, the Alberta Star-B-Q, the Alberta Star Party, regularly scheduled General Meetings, NOVA, Observing Group and Youth Group.

Special mention too to Ken and Bev From, owners of All-Star Telescope for their support of the Calgary Centre and for their generous sponsorship.

### Membership

At the end of December the Centre had 434 members, showing continuous growth year over year. At our upcoming public events volunteers will be highlighting Centre activities and the benefits of RASC membership to encourage attendees to join the RASC. Our Social Media campaign continues to attract new followers and likely new members and our refreshed Youth Group is attributed with the addition of new Youth Members and their families.

### General Meetings

General meetings were held on the third Thursday of the month and featured the following main speakers and topics:

January	Alan Dyer was our guest speaker sharing images from his “Chasing Comets and Moonshadows” expedition to the Painted Pony Resort in New Mexico and his eclipse adventure on a 4-masted sailing ship crossing the Atlantic.
February	This month, Don Hladiuk presented his Nov 2013 eclipse chasing expedition on board a chartered jet at 44,000 feet along with images and stories of the MAVEN Mars mission (NASA) from the Kennedy Space Centre.

March Dr. Phil Langill of the University of Calgary began with an interesting series of photos entitled "Earth or Not?" sharing interesting photos of other planets. His primary talk, "Measuring Miniscule Winks; finding planets around other stars highlighted his students' work which represented the most precise measurements ever made at the RAO. Student's used the 16" telescope and advanced techniques to measure the falling light curve of 2 known exoplanets.

April President Jason Nishiyama and prolific presenter Roland Dechesne gave a talk entitled "The Solar System and its place in the Universe". Starting with the Solar System, taking us from Ptolemy and Copernicus, through the works of Tycho Brahe, Johannes Kepler, to how the use of the parallax of Mars and the parallax of the transit of Venus was used to accurately measure the distance to the Sun. Beyond the Solar Sytem, they reviewed the works of Sir William Herschel, Bessel, Struve, Henderson, Henrietta Swan Leavitt, Harlow Shapley and Helen Sawyer Hogg and culminating with the work of Edwin Hubble; then turning back the clock to "0".

May The annual Peter Sim lecture. Dr. Carolyn Porco, Chief Imaging Scientist of the Cassini Mission to Saturn was our guest speaker. She shared a fascinating account of her young years in Brooklyn and her subsequent career leading up to her appointment to the Mission in 1991. Recounting the Mission to date, she shared personal insights into the discoveries and the moments of triumph along the way and throughout the continuing mission. All attending were privileged to have a first-hand account with colorful anecdotes along the way from a truly remarkable scientist.

September Alan Dyer presented his nightscapes and astro-images in his talk, "Tales of Two Hemispheres; Australia and Alberta Skies". Beautiful imagery, amazing technique, and a preview of the illustrations soon to be published in his pending e-Book. Alan's images demonstrate his mastery of the art, highlighting how fortunate we are to him amongst our membership.

October Don Hladiuk, member since 1978, Calgary Centre President twice, shared his experience seeking out a view of the Milky Way's core. Taking him to Africa as his Southern Hemisphere destination, he took us all with him on safari, visiting observatories, dark sky sites, animal encounters and sand dunes.

November Calgary Centre elections for Council were held followed by Member Presentations.

### Public Education

Calgary Centre's Public Outreach efforts hosted 58 public events, some over multiple evenings, with 7,538 members of the public attending.

Calgary Centre continued to provide volunteers with telescopes for the University of Calgary Rothney Astrophysical Observatory's monthly open houses. These open houses are well attended by the public and the Calgary Centre sets up an information table with insight into the RASC, our local programs for public outreach and our work on light pollution abatement. Highlights included excellent views of the Milky Way during two three-night public observing sessions called Milky Way Nights in July and August.

Astronomy Programs with Parks Canada and Alberta Provincial Parks continued in 2014 with numerous Park's events held in Banff National Park, Rocky Mountain House National Park, Glenbow Ranch Provincial Park and Fish Creek Provincial Park to name a few.

RASC volunteers with telescopes also attended several other events in Airdrie, supporting the Airdrie Space Science Club and Vulcan, the home of the Star Trek Centre

Centre member Don Hladiuk appears on the CBC radio "Eye-Opener" show the first Tuesday of every month presenting Sky Highlights for the month.

Several groups came out for tours of our Wilson Coulee Observatory and most nights had skies clear enough to show them a few objects in the C-14 telescope in the dome.

The Calgary Outdoor Adventure Show and Comic Con proved to be busy venues for the Centre's booth and event organizers in Banff have discovered the entertainment value of bringing RASC volunteers to corporate events in the picturesque town in the Rockies. The latter offered a new venue for public outreach as well as an opportunity to bolster the Centre's coffers with much appreciated honoraria.

### Other Activities

Special events included the Annual Awards Banquet in January and members BBQ at the Wilson Coulee Observatory (WCO) in June, the Star-B-Q in July and the Alberta Star Party in September.

The Club's Wilson Coulee Observatory hosts monthly Observer's Group meetings, NOVA group sessions and the Youth Group meetings.

Social Media has proved to be a significant addition to the Centre's outreach portfolio (shout out to Roland Dechesne) with over 7000 recorded views-hits-followers-etc.

The popular Telescopes-for-Rent program available to Centre members continues to be very successful.

The Centre newsletter, *The StarSeeker*, is now distributed electronically to save production and mailing costs and was published 9 times in the year.

RASC Calgary Centre Council meetings were held at the University of Calgary

**Robyn Foret**  
*President*

**EDMONTON**  
CENTRE

The Edmonton Centre had a full year of activities, not just with regular meetings with an excellent list of speakers, but also with many observing, public service and outreach activities.

### Outreach Coordinator's Report:

We had a very busy year for our Public Education/Outreach people. Some of the events we set up our information booth for were:

- Music of the Night Sky with the Edmonton Symphony Orchestra
- Family Day at the Edmonton Garrison
- Astronomy Day at TELUS World of Science
- Canada day in Sherwood Park
- Beaver Hills Dark Sky celebration
- Jasper Dark Sky celebration
- Edmonton Expo
- Dark matters at TELUS World of Science

Our primary observing outreach is through our observatory deck next to the TELUS World of Science in Edmonton's Coronation Park. Weather permitting the "deck" was open on weekends throughout the year and daily during July and August. The "deck" plays host to youth groups, students and adults throughout the year. A typical Saturday night can see upwards of eighty people dropping by for a peak.

The "deck" was open late into the night for views of the April Lunar Eclipse. Hundreds of people showed up to view the event despite marginal skies. The October Lunar Eclipse was completely obscured and we did not open. Likewise for IOMN. Weather kept the deck closed from November 2013 until the end of March 2014.

Sidewalk astronomy took place on and around astronomy day and at other times as individual members took the initiative to show the public the wonders we in the hobby sometime take for granted.

The Beaver Hills Dark Sky celebration held on the Labour Day weekend was a big success with 20 plus telescopes set up for public viewing. Although not directly organized by our centre, several members with their telescopes made the trip west to the Rockies in October to participate in the Jasper Dark Sky event which featured a partial solar eclipse and astronaut Chris Hadfield.

Visits to schools, nature preserves, civic events and the like were carried out by our volunteer members.

Our new Astronomy cards were debuted in time for Astronomy Day 2014. Each of the 36 card set features a full colour astronomy themed picture, many taken by Edmonton centre members on one side, with some complimentary text on the other. This is the first new card set our centre has produced since 2001.

### **Vice President's Report**

2014 was an outstanding year for our speaker program:

- Tom Field—You can almost touch the stars.
- Darren Grant—Not of this Earth: the advent of neutrino astronomy
- Julia Foght—Bugs in Spaaaaace!
- Phil Plait "The Bad Astronomer"—Where has our Curiosity Taken Us?
- Dr. Carolyn Porco—In the Land of Enchantment: A Decade Exploring Saturn
- Fred Espenak—Predicting and Chasing Solar Eclipses
- Stephen Ramsden—What's hot on the sun this summer? Everything!
- Douglas Schmitt—Peering into a Possible Impact Crater: Bow City Alberta
- Paul Hickson—Extremely Large Telescopes
- Ross Lockwood—Real Life on Fake Mars
- Dr. Erik Rosolowsky—The Search for Intelligent Life in a Hostile Universe
- Christopher Robson—Ex-Altia 1—Alberta's First Satellite

### **Telescope Lending Coordinator's Report**

Our telescope loaner program makes available telescopes for members and the general public who would like an introduction to telescopes or want to see what kind of telescope would fit their needs. The program also provides an outreach for members who don't actively observe but still would like a telescope for travel or for special events like eclipses and comets. The RASC Edmonton Centre has been operating this program as a telescope RENTAL program for a number of years; however, last year council voted to make telescopes available for free, with the only stipulation that non-members leave a refundable deposit of \$40. With the paradigm shift from RENTAL to LOANER came a refurbishing of the telescopes and accessories: eyepieces, eyepiece cases, tripods

and mounts. We currently have a collection of 14 telescopes in the program: three Meade ETX 90mm Maksutov-Cassegrain, one Meade 390 90mm Refractor, one Efston Science Newstar 120mm Refractor, five KidScope 150mm (6") Newtonian Reflector designed and built by the Edmonton Centre members, one Omnicon 515S 150mm (6") Newtonian Reflector, one Meade 8" LXD55/75, one Dobsonian with a Coulter 10" mirror, and one award winning 18" Newtonian ClubScope. Since June of 2014 the program has been quite active with a total of 15 loaners. On average, we are lending about two telescopes per month.

### **Sky Scan Liaison Report**

RASC Edmonton Centre provides major contributions to the Sky Scan Science Outreach program, along with the Department of Physics at the University of Alberta, and the Alberta Science Network. The Sky Scan Science Outreach program uses the universal appeal of astronomy to provide an inclusive and accessible learning program that inspires youth to a life-long interest and career choices in Science. We conduct engaging, astronomically motivated learning activities in Grade 6 and 9 classrooms, as well as at the University of Alberta (U of A) Observatory, using inquiry based practices that meet (and exceed) the goals of the Alberta Education curriculum. Our main focus is on Edmonton-area schools, but we do drive out to schools that are up to one hour away. All programming is free of charge in order to keep the learning accessible to all. Funding for this comes from Edmonton RASC and the University of Alberta.

Our 3 main programs are:

(1) Astronomer in the Classroom—An astronomer (with a BSc or MSc in astrophysics) visits a school to lead astronomy-related activities and answer astronomy questions from the children. In 2014 we visited 75 schools, reaching 3630 students.

(2) Class visits to the U of Alberta Observatory—Classes can visit the observatory at the U of Alberta to look through the telescopes either during the daytime or evening. If the sky is cloudy there are activities involving meteorites instead. In 2014 there were 29 field trips to the Observatory with a total of 720 students.

(3) Solar Telescopes at Schools—Schools can request a solar-viewing session at their school. Solar telescopes are brought to the schools by volunteers who are usually RASC members. In 2014 we had 24 solar sessions at schools, reaching 1110 students.

### **Webmaster's Report**

The Edmonton RASC website was reorganized and converted to WordPress so it displays well on any screen, from desktop to tablet to phone. This project achieved some very nice objectives, including: Ease of managing content without the need to use HTML, easy archiving of historical content, multiple authors with different levels of access, a built-in search function and integration of our Twitter feed.

### **Kent Martens**

*Secretary*

The Halifax Centre of the RASC had a busy and successful year with regular meetings and a variety of Outreach events promoting astronomy to the public. The Outreach Committee and many Centre volunteers carried on with the activities and worked in partnership with Saint Mary's University, Dalhousie University, the Minas Astronomy Group, and the Halifax Planetarium in hosting and supporting many programs and activities.

## General Meetings

Monthly meetings are held generally on the third Friday of each month, except for the summer months of July and August, providing 10 monthly meetings this year. The Executive meets in the hour prior to the main meeting to discuss Centre business. These meetings are held in facilities provided by Saint Mary's University. The Centre's library cart, which contains a selection of books on astronomy subjects, is available to members at each meeting. The Meetings opened with a poem related to astronomy selected, or written, by our President Paul Heath "to open our hearts and minds" then the evening's main presentation with Centre business and a What's Up by our Observing Chair Sean Dzafovic following. Refreshments and discussion follows the formal meeting.

The Halifax Centre continued hosting a series of speakers at each monthly meeting who gave interesting and informative presentations. Meeting attendance varies from approximately 30 into the 60s, depending on weather conditions. Presentations included:

In January we had a member's night presentations on Web resources and useful tablet Apps. February had a presentation on light pollution and also on our involvement with the Keji Dark Sky Preserve. In March member Tony Shellinck shared his trip to the Southern African Large Telescope, followed by a tour of the St. Mary's upgraded Burke Gaffney Observatory.

April's speaker was author Dan Faulk introducing his new book *"The Science of Shakespeare"*.

May had member Dave Chapman and Cathy LeBlanc present a talk "In Search of the Thirteenth Mi'Kmaq Moon". In September the theme was skills for new observers with "Finding Your Way Around the Night Sky" and "Tips for Practical Observing."

In October guest David Griffith presented on meteorites and their collection, "They Came from Outer Space".

November held a Telescope Clinic and Scope Talk and a presentation on "Binoculars and Their Benefits and Use".

December's meeting was our AGM followed by our quiz show "Who wants to be a Gazer?" All in all, we had a good mix of subjects and captivating speakers.

## Observing

The Centre has a dark sky observing site approximately 40 minutes from Halifax. The St Croix Observatory has a roll-off roof, warm room & WR facilities. The Centre has recently purchased a 16-inch Go-To Skywatcher Dob which is very popular. There are regular observing nights each month with "weather permitting" gatherings arranged ad hoc on the Centre's web list.

## Centre Newsletter NOVA NOTES

*Nova Notes*, edited by Quinn Smith, continued in its regular format with 5 editions in 2014. It is delivered in an electronic format through the Halifax Centre web site with paper copies mailed out on a subscription basis. The Newsletter contains articles, photos,

astrophotos, poetry, meeting write-ups—all by Centre members. Publication will carry on through 2015.

## Public Outreach

Along with the public observing sessions that have taken place in Halifax, many members have hosted their own observing session within their local communities.

The Halifax Centre has continued to support the Halifax Planetarium and several of our members have given shows throughout the year.

## Nova East Star Party, Smiley's Provincial Park

This year Nova East, Atlantic Canada's regional star party was a success and had an excellent guest speaker, Dr. Rob Thacker of St. Mary's University. This star party is open to the public and shares the view with a field of telescopes.

## Dark Sky Preserve Support

The Centre has also supported Kejimikujik National Park and Historic Site which has been a Dark Sky Preserve since 2010. This summer Dave Chapman of the Centre helped facilitate the Dark Sky Weekend, with presentations, talks, observing sessions by Centre members, and guests from the Winnepeg Centre and Keji Parks Canada staff. Parks Canada has worked hard to sustain and enhance Kejimikujik National park in maintaining its Dark-Skies Preserve certification.

## Goals for 2015

The Halifax Centre was fortunate to be chosen for the 2015 GA and work is well under way with its co-chairs Quinn Smith and Pat Kelly and the GA Committee. For the coming year the Halifax Centre has committed to carry on many of the public outreach programs provided in 2014. The Halifax Centre, with the drive and dedication of its members, will continue the sidewalk observing sessions, library talks, provide presenters for the planetarium, support Kejimikujik National Park, and maintain the Astronomy Nova Scotia website which provides easy access to all astronomy event information in Nova Scotia.

## Chris Young

Secretary

The Hamilton Centre actively supports its members in their pursuit to better understand and practice astronomy; from concepts to the tools involved. The monthly members' meeting always features an invited speaker from the realms of academia to the ranks of the gadget inventors. The Centre also offers a course entitled "New Observers to Visual Astronomy" (NOVA) which is highly appreciated by beginners. And we have added to this a very popular telescope loaner program to facilitate getting practical experience.

The Outreach activities are at the heart of the Centre's endeavours. Public observing nights are held at the Centre's Leslie V. Powis Observatory in addition to sidewalk astronomy sessions. The Hamilton Centre in partnership with Westfield Heritage Village hosts public observing nights at the Village using vintage telescopes we keep there and all of this while dressed in period costumes. We are currently working with Westfield to build a permanent period

style observatory on site to continue this program and to have the vintage telescopes on permanent display. Westfield was also chosen as the site of a very successful star party in 2014 which we hope will become an annual event for us. This is but the tip of the iceberg...

**David Surette**  
*Secretary*

# KINGSTON

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CENTRE

Regular Meetings of the RASC Kingston Centre from November 2013 to October 2014 were held in Room 324 Ellis Hall, Queen's University.

- November 14 Annual General Meeting followed by member's reports
- December 12 Holiday Banquet of RASC Kingston Centre held at Aunt Lucy's Restaurant, Kingston, Ontario.
- January 9 Brian Hunter gave a presentation on how to observe the March 20th occultation of Regulus as well as suggestions and discussion among membership for equipment and locations for observation.
- February 13 Dr. Bruce Macintosh spoke about "Pictures of Other Worlds: Directly Imaging Extrasolar Planets."
- March 13 Dr. John Percy gave a talk "Understanding Variable Stars: How the AAVSO and You Can Help."
- April 10 Special Observing Social for members and their guests at Lake Ontario Park.
- May 8 Video simulation of an occultation and members presentations.
- June 12 Members' Night.
- September 11 Members' Night.
- October 4 Randall Rosenfeld, RASC Archivist, "What's in the Constellation Crater, How Newton Got 500 Bottles of Champagne and When Halley Drank Brandy and Swore: The Surprising History of Astronomy and Alcohol."
- November 13 22 people came out for the AGM! Business was concluded in short order and member presentations covered, tips on lunar observing, eclipse images from places other than Kingston, Atacama Desert and L&A Dark Sky Site astrophotos.
- December 11 Annual Holiday Banquet at Aunt Lucy's, we filled the private room with 26 attendees and stayed beyond closing time still unable to catch up with everyone.

**Projects and Ongoing Observations for the Year included:**

**Light Pollution Monitoring:** The City of Kingston has been in the process of exchanging bulbs in night lighting fixtures with LED bulbs. Members were encouraged to see if this had an effect on the amount of light pollution coming from Kingston, and to photograph the night sky and compare with photos from past years.

**Torus Telescope:** Queen's University has replaced the 16 inch Torus Telescope in the Ellis Hall Observatory with a 14 inch Celestron telescope. RASC Kingston Centre reached an agreement with Queen's to get the 16 inch Torus Telescope on loan for use

by Kingston Astronomy Club members. Over the course of several months work parties were organized to build a shed to house the Torus Telescope, to move the telescope, mount it, clean the mirror, re-coat the mirror, set up the computerized operation, and collimate. The commissioning phase is almost complete.

**RMC Domes:** Royal Military College Physics Department was taking down two astronomy domes, one 16 ft. in diameter and a smaller 7 ft. dome. RMC is providing these domes to Kingston Centre on a long term loan. A work party was organized in October to dismantle the domes and move them to where they will be stored at a member's house. Kingston Centre thanks members for storing various pieces of equipment.

**Fall'n'Stars Annual Event:** members of RASC Kingston and RASC Belleville Centres cooperated in organizing the annual Fall'n'Stars star party event held at Vanderwater Conservation Area near Thomasburg, Ontario September 26th to 28th, several members attended this event.

**KAON (Kingston Astronomy Outreach Network, Queen's U. Observatory)** RASC Kingston members volunteered to attend the KAON monthly Saturday public events at Ellis Hall. Telescopes were set up on the observing deck after the talks for public viewing, these events provided an opportunity to advertise RASC Kingston Centre and introduce members of the public to astronomy. Unfortunately, during renovations of the viewing deck, the Fire Marshall has declared that only a limited number of people can be allowed on the deck. These events have now been cancelled. Kingston Centre is looking as possibilities for future-outreach.

**Website:** The RASC Kingston Centre Website Administrators have upgraded the website to a new Drupal Website and giving it a more modern layout, more features, and made it more user friendly for members.

**Awards:** Two members received awards this year: Brian Hunter received the Kingston Centre's A. Vibert Douglas Award, and Susan Gagnon received the Society's Service Award, as put forth by the Council of the Kingston Centre.

**Education:** Susan Gagnon and Bruce Elliott made a presentation to enthusiastic local Brownies and Bruce acted as Judge in the annual Frontenac, Lennox and Addington Science Fair: The Leo Enright Prize in Astronomy consisting of \$75.00 and a copy of the Beginner's Observing Guide was awarded to the 2014 winner.

**Observations:** Members are encouraged to share their observations. Resources such as the library are made available for research and a Facebook page has been set up to publicize RASC Kingston Centre and share news and information, as well as an ongoing email list for sharing news and information among membership. The weather during the past year presented many challenges, many events such as the occultation of Regulus, two lunar eclipses, a partial solar eclipse, auroras and meteor showers were all obscured by thick clouds and rain or snow in the Kingston area. Although the April outdoor meeting was rained out and ended quickly, members used it as an opportunity to scout out the location for possible future gatherings. Clear weather was enjoyed during the Fall'n'Stars event, and in spite of the trend of overcast throughout the year many members were able to share photos and reports of solar prominences and record large sunspots, meteors, ISS passes, lunar images and time lapse sequences among other events. Disappointment was felt when the much-publicized Comet ISON disintegrated on its passage around the sun and although hopes were raised when predictions were made that the Camelopardalid meteor shower could possibly turn into a "meteor storm" this event only produced a weak meteor shower at best.

We look forward to 2015. Kingston Centre still searches for a home for its ever expanding range of assets, greater opportunity to observe together and work on meaningful outreach.

**Rosemarie Burke**  
*Secretary 2014*

**Susan Gagnon**  
*Secretary 2015*

# KITCHENER-WATERLOO

CENTRE

January	General Meeting—Dust by Steve Holmes, Serge Mammoliti did What's Up.
February	General Meeting—Gerry Bissett presented Gravitational Lensing. Stargazers 101—Ron Brecher presented "The Evolution of Astronomical Imaging," Serge did his What's Up.
March	Stargazers 101—Mike Gibbons presented his trip to Maui, Ron Brecher talked about his latest astrophotos.
April	General Meeting—Astronews, Gerry Bissett talked about the latest news of the BICEP observatory at the South Pole. Stargazers 101—Gerry Bissett showed his photos from the Atacama. Light pollution awareness. First star party of the year.
May	General Meeting—Andy Blanchard from Hamilton talked about his Observatory in San Pedro de Atacama, Chile, What's Up by Sergio. Astronomy Day Star Party, Waterloo Park, 60 people attended.
July	Stargazers 101 at Conestoga Lake Conservation Area.
August	Some members attended Starfest. Stargazers 101 at Conestoga Lake Conservation Area Perceid Meteor Shower Star Party with University of Waterloo, 250 attended.
September	General Meeting—Gerry Bissett talked about his trip to South Africa and Namibia. Stargazers 101—Clark presented the night sky and Serge did his "What's Up." Astronomy Day Star Party in Waterloo Park—80 people attended.
October	General Meeting—Gerry Bissett talked about his trip to Starmus in the Canary Island. Stargazers 101—Clark Muir presented the Meteor Shower of 1833, Serge Mammoliti did his What's Up. School star party Glencairn PS—25 students and parents. Club members observed partial solar eclipse.
November	General Meeting—Annual General Meeting, new Board elected, Dave McCarter for the London Centre gave a talk on the southern skies.
December	General Meeting—Brian Dernesch presented Grab and Go Astronomical Equipment.

## Outreach

School Outreach visited Grade Six classes in Kitchener-Waterloo and assisted with their astronomy modules.

Scouting outreach was not done this year. 2015 will be a better year.

**Jim Goetz**  
*Secretary*

# LONDON

CENTRE

2014 was another very good year for London Centre with outreach staying at its normally high level (vide below) and Centre meetings and functions well attended.

## 2014 Member of the Year

Everett Clark was awarded the 2014 Member of the Year for his work as Centre secretary, assisting Bob Duff at the Cronyn Observatory, his other outreach endeavours, assistance with any work needed at the observatory and his help arranging for the 2014 star party. Everett joins his father in the list of members of the year. Congratulations.

## Banquet 2014

London Centre held its annual banquet at the Stoneridge Inn on July 7th. Dr. Robert Jedicke, Insitute for Astronomy—Hawaii delivered a talk on Earth's Mini-moons. Thanks to Peter Jedicke for making all the arrangements.

## Observatory

Our observatory physical plant and hardware have reached a stable state and training is continuing. We had a weekend summer star party at the observatory site which, while not very well attended, was a lot of fun; the folk that did attend enjoyed it. The observatory is now equipped to the point where a member need only bring a USB stick do imaging with the 12-inch RC. The C14 is a hit with the visual observers.

Thanks have to go to Roman Dubinski for the donation of the observatory monitor, Two Old Guys Astrogear for the mini-computer, and to Peter Adams for the modified Canon DSLR.

## Monthly Meetings

Our monthly meetings were, as always, well attended and our Guest Speakers were engaging. The standard 'fare' for meetings are:

- news items that have come up since the last meeting
- images taken by Centre members
- Cheap Stuff From China (bits and pieces from eBay)
- Observatory news and discussion
- Outreach reports
- Centre business
- Guest speakers, panel discussions etc.

## Meeting speakers and highlights

January	Gordon Osinski—Western University Impact sites
February	Gary Colwell—Hamilton Centre BackAssWard astrophotography
March	Robert Cockcroft—McMaster University Ancient Egyptian Astronomy
April	Members' night—Various members DSLR astrophotography
May	Duncan Steel—Western University How Astronomy Colonized America
June	Dan Falk—The Science of Shakespeare

July	Randall Rosenfeld—RASC National Alcohol and Astronomy
September	Ray Carlsberg—Univ. of Toronto Thirty Metre Telescope
October	Tony Martinez—Western University Stellar spectroscopy
November	Panel discussion—Peter Jedicke—moderator Would you go to Mars on a one-way trip? Panelists: Phil Stooke, Phil McCausland, Melissa Battler, Dale Armstrong, Andrew Rader (Skype)
December	Video and discussion—The Star of Bethlehem

### London Centre Outreach Summary

London Centre had another busy year in 2014 with Public Outreach Coordinator Dave McCarter involving members in events at campgrounds and making 2 slide presentations in Wellington, New Zealand. Higher Education Liaison Robert Duff maintained the London Centre's very active presence at the Hume Cronyn Observatory on Western University campus. London Centre Treasurer Bill Gardner conducted a star night at the Killarney Provincial Park Observatory, February 15th.

There were in all 24 London Centre members who took part in one or more of 108 public outreach events, involving 4,174 Members of the Public (including 464 student visits to the Cronyn Observatory for Astronomy 1021 projects) for a London Centre Members Participating / Participation Rate = 24 / 317. There were 26 amateur telescopes used for an Amateur Telescopes Used / Usage Rate = 26 / 177. This includes use of the London Centre's Fingal Wildlife Management Area 2 roll-off roof Observatory telescopes housed in OBS1, a 30.5cm Astro-Tech Ritchie-Chretien; and in OBS2, a 35.5cm Celestron C14 Schmidt-Cassegrain. Also included is the Killarney Provincial Park Observatory's Meade LX5 10-inch (25.4cm) Schmidt-Cassegrain. For the Partial Solar Eclipse of October 23rd, 2014, Solar binoculars Used / Usage Rate = 1 / 1 and Sunspotter Used / Usage rate = 1 / 1. Use of the Western University's Hume Cronyn Observatory's 25.4 cm refractor is not included in the totals for amateur telescope usage.

The 24 London Centre members who participated in one or more outreach events with London Centre and / or Cronyn Observatory Public Nights, Special Events, Exploring the Stars events and Astronomy 1021 student projects at the Hume Cronyn Observatory on Western University campus, including Dale Armstrong, Dave Clark, Everett Clark, Eric Clinton, Tricia Colvin, Mike Costa, Robert Duff, Mike Flegel, Bill Gardner, Steve Gauthier, Gaetan Godin, Jeff Harrison, Steve Imrie, Peter Jedicke, John Kulczycki, Norm McCall, Dave McCarter, Trev McNaughton, Matt Neima, Pete Raine, Mike Roffey, Rick Saunders, Mark Tovey and Harold Tutt.

This list does not include London Centre member, Richard Gibbens, who listened to the slide presentations at 11 of the 18 Cronyn Observatory Public Nights, May 3rd, August 30th, and two Cronyn Observatory Public Nights—September 6th and November 1st, 2014.

Educational materials distributed in 2014 at London Centre Public Star Nights included 21 "Star Finder" member planispheres, 21 "Moon Gazers' Guides" cards and approximately 12 *Mary Lou's New Telescope* books. There were no *Secrets of the Night Sky* (CSA) sky charts distributed. There were enough "Solar Eclipse Viewers" distributed [20?] at the October 23rd, partial solar eclipse.

Educational materials distributed in 2014 at the Cronyn Observatory mostly for Exploring the Stars events and some at Cronyn Observatory Open Houses included: 572 [i.e., 574] *Star Finder* planispheres, not including 2 given to members Everett Clark and Robert Duff, February 6th, for demonstration (at this and future events), which would bring the total Star Finder planispheres

distributed to 574. There were also 25 "Moon Gazers' Guide" cards distributed. However, there were no *Mary Lou's New Telescope* books or *Secrets of the Night Sky* sky charts (Canadian Space Agency) distributed.

There were 2 Solar Eclipse Glasses from the dome storage cabinet distributed, one to visitors and one to London Centre member Mark Tovey, Thursday, November 6th.

Educational Materials Distributed in 2014:

- "Star Finder" planispheres = 572 [574] + 21 = 593 [595]\*
- "Moon Gazers' Guide" = 25 + 21 = 46
- *Mary Lou's New Telescope* [book] = 12
- Solar Eclipse Viewers = 20 [?] at the October 23rd, 2014 partial solar eclipse, Fanshawe College.

\*The totals comes to 574 and 595 "Star Finder" planispheres distributed, respectively, if we include 2 given to 2 London Centre members at the Cronyn Observatory, February 6th, 2014, for use in demonstration.

**Rick Saunders**  
Secretary

## MISSISSAUGA CENTRE

The year 2014 was the 8th year of the Mississauga Centre. The Centre grew in membership and had an active program of outreach, observing, and meetings. At the Speaker nights, organized by Randy Attwood, an expert would give an in depth presentation on a specific topic of astronomical interest.

In 2014, there were 8 Speaker Nights as follows:

January 24	Jesse Rogerson—Planet vs. Dwarf Planet?
February 21	Dr. John Moores—Searching for Water Across the Solar System
April 25	Dr. Roberto Abraham—Ultra-low Surface Brightness Imaging with Project Dragonfly
May 23	Dr. Pat Hall—Gas Falling into Black Holes: A Surprising Discovery
June 20	Prof. Keith Vanderlinde—Canadian Hydrogen Intensity Mapping Experiment
September 26	Dan Falk—The Science of Shakespeare
October 24	Dr. Amy Shaw—New Earth Asteroid Benu and the OSIRIS-REx Sample Return Mission
November 28	Dr. Rachel Friesen—Atacama Large Millimeter/sub-millimeter Array

At the potpourri nights (formerly called "Members' nights") organized since September by Andrew Opala, club members are able to give shorter presentations on a relevant subject. At the 13 Potpourri Nights, 24 members gave presentations on the following topics: There were astronomy travelogues to Chile and Peru, the Sudbury Neutrino Observatory, the Turks and Caicos Islands, Kawarthas, Spain, southern England, Prague in the golden age of astronomy, and the David Dunlap Observatory.

Observing topics covered solar eclipses including the partial of October 23, the lunar eclipse, small telescope observing, the Perseid and Geminid meteor showers, the constellation Cygnus, the Whirlpool galaxy M51, the "Sky this Month" series and the sky for 2015, Pallasian asteroids, light pollution in Mississauga, light pollution abatement activities, the Observers Handbook, "Exploring the Universe" Certificate and RASC observing certificates. Equipment

and imaging talks covered radio astronomy and detection of meteors, the Centre LUNT solar scope, time lapse videos, webcam astronomy on the cheap, the Vixen polarie, and astronomy software. There were reports of star parties and events such as the 2014 GA in Victoria, the Council of the RASC update, Starfest, a proposed Long Point Star Party, Astrocats, the talks of Neil De Grass Tyson and Chris Hatfield. There was a book review "*An Astronaut's Guide to Life on Earth*" by Chris Hatfield, movie reviews of the films "Gravity", and "Europa Report", talks on astronomy on stamps, astronomy trivia, Sally Ride the first American woman in space, and centre merchandise.

Again we thank Dr. John Percy and Dr. Ulrich Krull who sponsor our club and allow us to use the University of Toronto at Mississauga (UTM) for our meetings.

A major activity of the Mississauga Centre is public outreach. As such, the Centre partners with the Earthshine Organization and Riverwood Conservancy to teach astronomy to the general public and show them the wonders in the sky. Over a dozen volunteers from the Centre helped out at these and other events. Riverwood public nights were usually held on Tuesday evenings on 8 occasions from April to November. On April 8, 150 people came out to look through 8 telescopes. On June 3 there were about 200, and on July 9 lineups of 15 people long stood at 12 telescopes to see various objects. On August 6 there were another 150 people and RASC starfinders were passed around. The Centre also held observing nights at Riverwood for members only where people could learn the night sky, look through various telescopes, learn to collimate and use their own telescopes, have one-on-one mentoring and work on observing and Messier certificates.

As well as at Riverwood, volunteers from the Centre helped with observing at 12 public library events held between May and September. After a public lecture, given by Past President Randy Atwood, the public would go outside and look through member telescopes. At other library events, daytime solar observing was done with the Centre's new solar scope. As one example, on July 15 at Lakeview library, where mayoralty candidate Bonnie Crombie was present, 250 persons looked through the solar scope and learned about the RASC and Earthshine.

There were also other outreach events involving Centre volunteers and their telescopes. These included Pathfinders on March 3, David Suzuki Secondary School on March 17, Earth Hour Oakville on March 29, Astronomy Day on May 11 at South Common Library, The Oakville Historical Society on Sept. 27, Burnhamthorpe Collegiate Nov. 27. In addition, there were other outreach events not mentioned here with Centre volunteers.

The Centre made a major telescope investment purchasing a state-of-the-art hydrogen alpha LUNT 80 solar scope in June. This scope allows superb views of solar prominences, filaments, granulation, and sunspots. The LUNT was put to good use during outreach events and at Starfest.

About 30 members attended the annual Starfest event from Aug. 21 to 24 where they enjoyed astronomy lectures, several good nights of clear dark sky observing, solar observing and a dinner and breakfast compliments of Dave Mitchell and his family. On October 4, 20 members took a field trip organized by John Marchese to the David Dunlap Observatory for a dinner, lecture by Randy Attwood and private tour. For the partial solar eclipse on Oct 23, about a dozen members observed on Centennial Hill in Etobicoke.

The only change to the Centre Council was the addition of Jo Vanden Dool as Councillor on Sept. 8. Jo again organized the certificate program of the Centre. The Centre took over the registration of the Mississauga Star Gazers Meetup group, initiated by Andrew Opala and run by him and Randy Attwood. By the end of the year,

there were 400 members in the Meetup group.

Randy, our Past-President was hired as Executive Director of the RASC in September. The Centre continued to sponsor the Clear Sky Clock for Mississauga. Mississauga Centre merchandise can now be purchased online thanks to the efforts of Gerard Foraie.

**Chris Malicki**  
Secretary

## MONTREAL CENTRE

As of February 2015, the Montreal Centre's membership stands at 110. A break down of this total give us 98 regular members, 9 life members and 3 youth members.

2014 has been somewhat of a difficult year for stargazers in and around the Greater Montreal area. Clouds have dominated the majority of the skies for most of the summer, especially the nights of public held events. As backup to the inclement weather, our centre's members had various lectures ready at hand.

With our 14-inch Meade LX-200 Ritchey-Chrétien telescope solidly mounted within our 10 foot dome, any opportunity of a clearing sky that was available, the 14-inch would be pointing at a celestial object with line-ups of the public, young and old to grab a glimpse and leave with wonder.

During the year, we had the opportunity to upgrade the interior of the Bellevue Observatory, customizing new shelving creating additional space for equipment and space for the public as well as members.

With the consent of the Morgan Arboretum Conservation Area, a McGill University-owned forest/habitat area, we finally broke ground and erected, with the aid of our members and following specific guidelines set forth by the Arboretum, a permanent signage board indicating the home of the Bellevue Observatory.

Throughout the 2014 year, Montreal Centre members accorded their time and talents to outreach activities such as general public viewing nights, various lectures and scholastic viewing activities. A partial list of our activities is as follows:

- Earth Hour—(spring) with the City of Westmount (about 300 attendees);
- Vanier College—(spring) Solar observing with Physics students
- Astronomy Day—(spring)—A public lecture and solar observing held at the Morgan Arboretum
- "Stargazing on the summit"—with the City of Westmount held at the summit of Mont Royal
- "Spooky Nights" Lecture and observation (fall-Halloween)—a public event (about 20 attendees)
- Perseids Meteor Shower—A public lecture and observation at the Morgan Arboretum. (about 25 attendees)
- Geminids Meteor Shower—A public lecture and observation at the Morgan Arboretum. (about 30 attendees)

Among our public lectures, the Montreal Centre had the pleasure and privilege to host two very special events;

An evening with David H. Levy—(fall) His lecture entitled "Poetry of the Night" consisted of some of Dr. Levy's favourite poems along with music and a notable portfolio of his life's work. A planned observing session entitled "Under the Stars with David" would have

culminated the evening had the weather cooperated, nevertheless, thoroughly enjoyed by the public and members alike.

As Part of our "Townsend Lecture," not only did we have the greatest privilege to host a "Meet and Greet" but also the pleasure to host a public lecture entitled, "An Intimate Evening with Canada's First Astronaut," Marc Garneau. Held at the Victoria Hall in Westmount, over 50 of our members and their families had the special opportunity in our "Meet and greet" to meet M.Garneau close up. Afterwards the doors were opened up and close to 200 people, filled the hall to attend M.Garneau's lecture of his experiences as an astronaut.

(To view images of the event, go to [http://www.flickr.com/photos/robert\\_portnoff\\_photography/sets/72157646969605411/](http://www.flickr.com/photos/robert_portnoff_photography/sets/72157646969605411/) Click on "Albums" and then RASC Montreal Centre)

After inquiring about a speaker's fee for Mr. Garneau, we were told to make a donation to a charitable cause in lieu of payment. The Montreal Centre had a working relationship developed with the Westmount Scout movement. It was decided to pay it forward by donating a new portable telescope to the Westmount's 2nd Scout Troop in the name of Marc.Garneau.

At a later date, our members attended a scout meeting to present them with their new refractor telescope and introduced them to the night sky, demonstrating the proper setup and use of their new telescope.

For our members only events, approximately 23 observing events were scheduled throughout the course of the 2014 calendar, many were unfortunately cancelled due to weather. During the course of the summer, we made some impromptu sorties whenever the we saw a night or two of clearing.

Along with our members observing events, we established a regular schedule throughout the year for the Friday night clubhouse. Many of these nights consisted of sharing ideas and good conversation and when weather permits share the night sky in the observatory.

During the course of the clubhouse evenings, members have developed and hosted technical seminars on astrophotography, equipment, software programs, and the latest current night-sky events happening in the viewing area.

The year Culminated with our Members Annual Christmas Party held at Moe's Deli.

Plans are now underway for what we see as a fully charged schedule for 2015, with a little help from Mother Nature. We definitely need more time under the stars.

Clear skies!

**Detlev Schmalhaus**  
*Secretary*

# NEW BRUNSWICK CENTRE

At the end of 2014 the NB Centre membership stood at 78, an increase of ten over the year. There were 13 new members, including six Family members, two people did not renew and one transferred to another Centre.

We normally hold nine regular meetings in a year, with venues rotating among Fredericton, Moncton, and Saint John. Attendance averages 15-20 members and guests. At the start of the year a survey was held to determine why members do not attend meetings, with the result that most responders had other life commitments on a Saturday afternoon. None recommended a better meeting day or time, and with the travel involved no other is as feasible. The January meeting was cancelled due to a faculty strike at the university venue.

Meetings consist of a What's Up talk, observing and imaging reports, Show & Tell, Buy & Sell, and presentations by members and guests. Guest presentations in the year included "The Science of Shakespeare" by Dan Falk in April, "Radio Astronomy at ALMA" by UNB professor Dr. Magdalene Normandeau in April, "The Mars 1 Mission" by U de Moncton professor Dr. Claude Gauthier (then one of 700 remaining candidates) in June, and "Mapping Venus Using Magellan Radar Data" by Matt West (father of a youth member) in October. Member presentations included topics on the Kuiper Belt, John Dobson, the prevalence of life on Earth and beyond, astro-imaging at a backyard observatory, the value of RASC membership, the NEAF, space art of Chesley Bonestell, star hopping tips, summer constellations, a recap of the GA in Victoria, binocular astronomy, listening to radio signals from Jupiter, telescope maintenance, and the Rosetta mission. Meetings are followed by a group dinner at a local restaurant.

Public outreach is a focal point of Centre activities and in 2014 we reported 104 events that involved 4840 people. In addition, 1960 Star Finders and 1580 Moon Gazer's Guides were distributed. The types of events were distributed well with much overlap, but notably included ten school presentations and 14 visits to youth groups. Among the events were presentations and observing for star parties at Mactaquac Provincial Park and the DSP at Fundy National Park, and two observing evenings at the Irving Nature Park USP. Unfortunately, annual star parties at the DSPs in Kouchibouguac National Park and Mount Carleton Provincial Park were cancelled due to inclement weather, although we supported the Kouchibouguac Fall Festival with solar and night observing. Another notable event was evening observing outside the Fredericton Playhouse in support of the Tafelmusik production of "The Galileo Project: Music of the Spheres." Prior events in support of the production included tours of the UNB observatory and of the historic William Brydone Jack Observatory, also on the UNB campus.

Three Council meetings and the general Annual Meeting were held in the year to conduct Centre business. The most significant item was a donation of \$1000 to Moncton High School in support of their effort to purchase a used observatory and 8" SCT for their new high school location. In addition, the Centre will support observatory programs and operation and a burgeoning high school astronomy club, and receive free Centre meeting space at the high school. Other business saw the creation and acceptance of a Centre Policy Manual. The business of the Annual Meeting was highlighted by Council elections and approval of a revision to the Centre By-Law.

In previous years the Centre LPA Chair facilitated obtaining individual approvals from Transport Canada for green laser pointer

(GLP) use at star parties. Through relationship building with the regional TC office, event rather than individual approvals were obtained for the star parties in 2014.

Centre plans for 2015 include continuing support for the three DSPs and one USP through star parties and observing sessions, support of Moncton High School's observatory program, support of an application for another Urban Star Park, increased focus on light pollution abatement, expanding contacts for public outreach, and increasing Centre membership. New co-Editors of the Centre newsletter, *Horizon*, plan to continue with four electronic editions in 2015.

**Curt Nason**  
*Secretary*

## NIAGARA CENTRE

The Niagara Centre had a good year in 2014, which was filled with observing, public events, regular meetings and get-togethers. Our membership grew steadily, going from the high 60s to low 70s. This is a reversal of many years of slow decline and we are very happy to see new faces at our meetings.

The Niagara Centre continued a strong tradition of public star nights and daytime talks at museums, libraries, a hospice, schools, other recreational clubs and private establishments, as well as city, regional and provincial parks and campgrounds. Our audiences included students of all ages and members of the public from the Niagara Region and further away. When the location has electricity and a proper building or pavilion, our public events usually include a slideshow and informative astronomy talk by Brian Pihack. Even when our public star nights are completely cloudy, members of the public who turn up can still hear a talk, meet club members and see telescopes in person.

Our most commonly used locations are Heartland Forest, a private park and conservation area in Niagara Falls, and the Chippawa Creek Conservation Area in Wellandport, which also hosts the Centre's observatory. We are always looking for new locations and venues.

Club members travelled to star parties in Ontario and Pennsylvania. About 15 members attended Starfest in August. White LED lights are continuing to appear in the Region. Although most are full cutoff design, many are too bright and are the wrong colour. We continue to lobby city and regional government to not use these models.

A new executive was elected in October to lead the club for the next two years. After many years of switching between President and Vice-President, Brian Pihack and Stan Sammy stepped down to less demanding roles.

### RASC Niagara Talks 2014

January	Philip Downey "Astronomy in New Mexico"
February	Denis Grey, RASC Treasurer, "Astrotrac (and other) tracking mounts for astrophotography"
March	Andy Blanchard "AstroCATS"
April	Don Pullen, "Cosmic Doom—Some of the Ways the Universe is Out to Get You"
June	Gwen Springford "Modelling Galaxy Formation"
September	Philip Downey, "The Rosetta Mission to Comet 67P"
October	Annual General Meeting

November Brian Dernesch "Grab and Go Astrophotography"  
December Philip Downey "Astronomy in Utah"

**Philip Downey**  
*Secretary*



Solar observing for public at Beamer's Point Conservation

## OKANAGAN CENTRE

Our Centre's membership spans the length of the Okanagan Valley in British Columbia's southern interior. We have organized ourselves into three meeting groups—Penticton, Kelowna & Vernon, each holding monthly meetings. Our 2014 year end membership numbered 120.

The Centre continues to provide a wealth of information to keep members fully advised either by electronic messaging, our website or our google discussion group. That includes on a monthly basis the President's Report, a celestial happenings report "What's Up" provided by Dave Gamble and our Centre newsletter "Focus" by editor Hugh Pett. Members of the Centre utilize the "AstroOkanagan Google Discussion Group" for the distribution of time sensitive messages of Centre or astronomical importance.

Centre member Dave Gamble was selected by the National Awards Committee as a 2014 recipient of a Service Award. This recognition acknowledged his many contributions for the betterment of our Centre. Cited were Dave's past service as Centre President as well as other Council positions, managing our Website as well as its astro photo gallery and providing outreach in his home community of Summerland. All providing a collective benefit to our Centre, but one of his most significant, technical and time consuming contributions was during the design & build of our Observatory's primary telescope—the 25-inch Gamble; a multi-year project, culminating in a tracking Newtonian-Dobsonian three mirror folding light instrument that does not require a ladder for most viewers. Since first light, Dave continues as the telescope's principle maintainer whenever in need of minor tweaks.

### Outreach Activities

The Centre's Outreach Program is structured via its three meeting groups.

Penticton Outreach—under the coordination of Al Fishler, the Penticton Meeting Group again provided astronomy education to

the public in the South Okanagan.

Events included the Meadow Lark Festival on the grounds of the Dominion Radio Astrophysical Observatory (DRAO) near Penticton, hosting the public during equinox & solstice celebrations at “Pen Henge” on Munson Mountain and partnering with DRAO for the Perseid Meteor Shower. Additionally the group provided a couple of star parties for home school students and also at a youth camp and a local winery.

Vernon Outreach—coordinated by Raffaele Scotto Lachianca & James Kanester provides local educational outreach to those in the North Okanagan.

This year the Vernon Meeting Group provided a telescope workshop, evening star viewing during the annual Vernon Winter Carnival, an Unplug & Play solar viewing event all in conjunction with the Okanagan Science Centre. Other public outreach evening viewing activities were conducted at the Allan Brooks Nature Centre, as well as slideshow presentations and sky viewing for an Independent Living Group & a Medieval Renaissance Group. The year finished off with an information booth at the Vernon Downtown Christmas Lightup Festival.

Kelowna Outreach—lead by coordinator Colleen O’Hare—again handled a large number of events through the year. Total events numbered 76 with approx 4,200 guests being exposed to astronomy. This year it included participation in 24 school events, monthly visits to the Cancer Rotary Lodge, large community family events including Canada Day and a number of Children’s Festivals, kids camps / groups, Cancer Relay for Life and Spring & Fall Wine Festivals to highlight a few.



Okanagan Centre members with festival visitors at Kelowna’s 2014 Canada Day

### Okanagan Observatory

The Centre’s Observatory is located a 40 minute drive south-east of Kelowna. We continue offering a regular schedule of free public educational/viewing nights as well as the Observatory being available any evening to members for their personal observing, sketching & astrophotography.

The public nights include a program in the SkyTheatre usually conducted by Colleen O’Hare and Guy Mackie. Guests can then tour the night sky assisted by our volunteer Night Sky Guides. Ample opportunity for a closer look is available to everyone utilizing any number of telescopes that we provide.

The club’s primary scope, the Gamble 25" Newtonian Reflector and its partner, the Astrophysics 130 mm ( 5.1" ) Refractor provide regular service every public night. This year we placed into service (first light May 2014) our recently acquired Articulating Relay Eyepiece, now attached to the Astrophysics 130. This device (DFM

Engineering ARE-125) allows the eyepiece to be lowered to any height providing wheelchair visitors an opportunity to comfortably observe the night sky “live” at the eyepiece. To further promote wheelchair accessibility the Observatory has begun a free bus service for those with mobility challenges.

On any particular night, these club owned telescopes are joined by a half-dozen member telescopes, providing a great astro experience for our guests. This year by seasons end, our schedule provided a dozen clear-sky Friday nights hosting approx 450 visitors.

The Observatory continues to be a work in progress. This year saw an enlargement to the parking lot and planning continues for development of the vast northern portion of our property. In the works are roads and private telescope viewing spots for members, youth groups (cubs/scouts, etc) and for other group events.

Development also continues on our Observatory’s radio astronomy capability being spearheaded by Hugh Pett. This year new infrastructure was put in place (trenching & install of electrical and communications cabling), telescope base preparation, tower construction and finally installation of the first 10 ft. dish antenna—much with the assistance of volunteer members. We are proud to say that the Observatory now has an active radio astronomy program having its “first light” in November, listening at 1420 MHz to Galactic Hydrogen. By year’s end, the receiver had generated 800MB of data describing the strength of signals and the spectra of the hydrogen clouds that swept past the field of view of the dish antenna. For 2015 the goal is to install and commission a tracking mount to allow continuous observations of one point in the sky for extended periods. For those interested, Hugh periodically produces a newsletter, titled *Radius* providing information / progress about the Project. For more information, or to receive the newsletters you may contact him at [hipett@uniserve.com](mailto:hipett@uniserve.com).



Member Guy Mackie with our Astrophysics 5.1 Telescope and new Articulating Eye Piece providing a direct look at a celestial wonder to an appreciative visitor at the Okanagan Observatory on one of our numerous Friday Public Nights

### Annual Fund Raising Dinner

During May, the Okanagan Centre held its Third Annual Observatory Fund Raising Dinner & Member’s Social. Dinner chair, Grant Rice, and his Committee again organized an excellent event, something we’ve become accustomed to; a fun evening get together

with fellow astronomers, friends, an abundance of interesting conversation and a silent auction. This year's featured speaker was noted amateur astronomer and astrophotographer Jack Newton of Osoyoos, B.C. & Arizona's Sky Village.

During the Dinner our Centre's Member of the Year was announced. We annually recognize a member for their specific accomplishments or long standing service to the Centre. This year we recognized Jim Tisdale for his many years in the Centre, holding a number of executive positions over the years, as an avid outreach volunteer, and being a strong supporter of our Okanagan Observatory including being instrumental with its site acquisition, other planning, improvements and construction of all sorts.

Further information on our Centre can be found at [www.ocrasc.ca](http://www.ocrasc.ca) (including newsletters, picture of the month, image gallery) and on the Okanagan Observatory website at [www.okanaganobservatory.ca](http://www.okanaganobservatory.ca) (operations, facilities, future plans, our donors)

**Dennis Krause**  
*Secretary*



Well here we are and another year has come to an end. Looking back at the past twelve months, the Ottawa Centre meetings have seen a nice variety of high-end speakers thanks to our meeting chair Mr. Mike Moghadam and I feel that this has helped spark an increase in overall membership. To date we have a total of 333 members and increasing. Speaking of our meetings, because of the abrupt closure of our home base at the Canadian Science and Technology Museum with its mold, asbestos and roof leaks, we had a couple of weeks to scramble and change location to the Canada Aviation and Space Museum for the last three meetings of the year. Notifications went out via the Centre web page and Facebook to advise of the change. With the announced \$80 million renovation lasting till 2017, we will be at the Aviation Museum for quite a while.

The Ottawa Centre meetings are held on the first Friday of the month and are the gathering spot for members and the general public. Great work and thought goes into each meeting starting with our talented presenters taking time to prepare their presentations. Then our secretary, Mr. Chris Teron, and Mike Moghadam meet for hours the week before to finalize the slides and the meeting schedule. No night would be complete without coffee, soft drinks and snacks served by our hospitality team of Anne and Art Fraser.

Thanks to social media, the Ottawa Centre has reached hundreds of people via the previously mention Centre web site managed by our web master Chuck O'Dale and the various contributors who update our Facebook page. A special thank you goes to Eric and Eunice Kujala and their team who provide the professional production and streaming of our meeting live over the Internet. Since its first broadcast thirteen months ago, previous meeting have seen more than 2,700 people. Our meetings are now quite literally viewed on the world stage.

Astronomy is an awe-inspiring hobby/science that should be shared with the general public whenever possible. I would like to thank our long list of dedicated members who have gone to schools, set up at star parties at Carp and run the newly implemented telescope workshops for two weekends in November. This was spearheaded by Mike Moghadam with the vision to help guide our new members to the working aspects of the telescope as well

as hands on adjustments to the instruments that people brought. Over the two sessions we had more than 35 in attendance and the events were a huge success. It is safe to say these sessions will continue down the road.

Vice President Gordon Webster did a fantastic job in organizing the November 14 annual dinner at Algonquin College. We had 68 attendees with our special guest speaker, Mr. Tim Puckett, who heads a team of supernova investigators and explained the process of find these illusive explosions in distant galaxies. Along with fantastic food, the awards were given out. The Paul Comision Observer of The Year Award was presented to Paul Klauning, Best *AstroNotes* Article of The Year went to Mike Earl and the Best Presentation was handed to Tim Cole. The night ended with a good selection of door prizes.

On a sad note, we regretted to learn of the passing of long time members Dr. John Knight and Antoine Fils-Aimè and former member and friend of the club, Jacques Labreque.

As my two year term as President comes to its end, I would like to thank Ottawa Council members on their dedication, ideas and resolutions over the previous two years. Members such as our Secretary, Mr. Chris Teron, who not only keeps things in order but has hosted most of our Council meetings at his house as well as keeping the monthly Centre meetings running smoothly at the Museum. Our finances are in great shape thanks to our Treasurer, Mr. Oscar Echeverri. Thank you for having me as your President and join me in welcoming our new Council.

Clear skies,

**Gary Boyle**  
*President*



The NOVA (New Observers to Visual Astronomy) course, now in its 11th year, started off the Centre's activities for 2014. The course was well attended by enthusiastic students.

As part of our outreach mandate, two Centre members served as judges and award presenters at the Central Interior Science Exhibition. Prince George Centre Youth memberships were awarded to two students for their winning entry.

Our booth set up at the Canada Day festivities attracted over 750 visitors. Telescopes equipped for solar viewing were a big attraction.

Outreach in remote locations, most notably Williams Lake and Mount Robson Park was facilitated by three Centre members. Activities included lectures and hands on telescope experience.

Dome/telescope movement synchronization is now working.

The Perseid meteor shower in August was adversely affected by smoky skies.

The Fort St. James Star Party was attended by 7 members and 27 guests. A video was shown because the skies were too cloudy for viewing.

Members manned the Centre booth in the Pine Centre shopping mall for the Fall Active Living Market. Many people visited our booth.

Centre member Bob Nelson's Aurora Borealis presentation was held at Exploration Place.

As always, public tours continue to be popular. Hosted by a dedicated team, the tours offer a lecture, laser pointer tour of the constellations, and hands on experience using the Centre telescopes.

Centre member Keith Egger presented a lecture on Astrophotography and displayed many of his breathtaking photos.

“Our Night Sky” is broadcast weekly on a local radio station to make people aware of interesting objects and/or events in the night sky. The broadcast also helps to advertise the Prince George Centre.

### **Glen Harris**

*Secretary*

## **Q** CENTRE DE **UÉBEC**

Au cours de l'année 2013-2014, nous avons tenu nos dix soirées conférences mensuelles. Parmi les sujets traités, nous avons abordé: les comètes, le traitement d'image astronomique et une soirée guide d'achat. D'année en année, les mêmes sujets reviennent, mais chaque conférencier apporte sa couleur et son expérience. Aussi, nous remercions M. Damien Lemay pour sa présentation sur la construction de son observatoire dans la région de Rimouski, Saint-Anaclet-de-Lessard.

Cette année, nous avons apporté une nouveauté, soit la tenue de deux conférences, une première en septembre 2013 et une seconde en janvier 2014; ces conférences ont été réservées aux membres pour la présentation de leurs réalisations de l'année. A ces occasions, tous les sujets ont été permis et devaient être limités quinze minutes. Après chaque présentateur, une discussion s'est établie avec l'assemblée et des échanges idées ont eu lieu entre les membres. Cette nouvelle formule plait beaucoup pour toute interaction que cela apporte.

Avec les améliorations apportées au télescope de l'observatoire Alphose-Tardif et les quelques soirées astronomiques disponibles, M. Marc Leduc a su guider les membres présents pour prendre quelques belles photos.

### **Pierre Desrosiers**

*Trésorier*

## **R** CENTRE **EGINA**

2014 was another excellent year for the RASC, Regina Centre. We continued to focus on our mandate of promoting Astronomy and its allied sciences. The club had many highlights this year thanks to the many efforts of the President, Chris Beckett, and the volunteers that help run the organization. One of the great achievements that was implemented this year was the reduction of our Centre fees from \$76 down to \$59.50 a year for a regular membership. The goal of the reduction is to keep membership affordable for everyone and also to help attract more members.

The year kicked off with some terrible weather so our January meeting was canceled. However our club president, Chris Beckett, gave a presentation at our February meeting highlighting naked eye astronomy.

The annual Messier Marathon turned out to be a cloudy night so no observing was done. Hopefully, we'll have better luck next year!

The next big event for the Regina Centre was a special presentation on April 4th, given by Wilfred Buck, a First Nations Sky Lore expert. He detailed the cultural significance of the stars as told by the elders of the First Nations people as it is passed down from generation to generation. It was a very enlightening presentation and the one thing that I remember the most is Wilfred's explanation of the spiritual significance of the turtle. To First Nations people, the turtle was a sacred figure and represents Mother Earth. It symbolizes good health and long life because turtles can live to be 150 years old. The cool part was that most turtles have 13 sections to their underside which represent the yearly cycle of the thirteen moons.

At the May meeting, James Edgar gave a presentation on Planetary Motion which was excellent. He gave another presentation the following weekend at the Lumsden Library as part of the public outreach he enjoys doing.

We had a request to set up telescopes on May 9th at Dallas Valley Ranch camp for the Caring Hearts Camp. Mark Walker led a group of Regina Centre members there to set up telescopes for the camp attendees.

Astronomy Day landed on May 10th this year and the Regina Centre was kept busy at the Royal Saskatchewan Museum showing our closest star to the general public. In the evening, members set up telescopes in front of the IMAX Theatre at the Saskatchewan Science Centre.

This year's star party at Grassland National Park East Block was on May 31st. We had another special guest speaking for our June 13th meeting. Robert Brown from the Hubble Space Telescope Institute gave us an amazing presentation about the Hubble Telescope. Robert was the chairman of the team that entertained proposals to fix the Hubble Space Telescope when they discovered the figure of the primary mirror was precisely incorrect. He gave a great presentation with many questions afterwards by a very interested audience.

We had a special invitation to the 25 Hours of Science event held at the Saskatchewan Science Centre on July 4th. This event was put on to celebrate the Saskatchewan Science Centre's 25th anniversary and because we've done many events together with the Science Centre, it was our honour to set up telescopes for the guests in attendance.

One of the great highlights of the summer was the election of Regina Centre member, James Edgar, to the National RASC President position at the 2014 GA in Victoria, British Columbia. James became the first Regina Centre member to take on the lead role of the National RASC. His involvement in the RASC at all levels has proven to be invaluable to the RASC across the country and we are very proud of what James has done and will continue to do for many years into the future. Congratulations, James!

July 10th, Chris Beckett gave a presentation at Buffalo Pound Provincial Park for the general public. We had 3 telescopes set up there for the 75+ people that were there to look through them.

The annual Saskatchewan Summer Star Party in Cypress Hills West Block was very well attended this year. The Regina Center gave public presentations on both the Friday and Saturday night's at the Cypress Hills Observatory. Members from the Regina Centre also set up solar telescopes in front of the Interpretive Centre so show the general public solar flares and sunspots.

The Grasslands National Park Star Party was held August 29th to September 1st. Members of the Regina Centre set up telescopes at the Rock Creek Campground in Grasslands National Park for a wonderful weekend of presentations and observing. After the

summer break, we were blessed to have guest speaker, Terry Trees, join us from the USA. Terry Trees is a long time RASC member who spends a great deal of time going to many dark sky sites and star parties. He gave a wondrous presentation about his adventures and travels over the years.

September 6th was Saskatchewan Beach public viewing event. Vance Petriew started the evening of with a presentation entitled "Traveling the Universe". One of the highlights was being able to give the attendees an explanation of the new map of the Laniakea Supercluster which was just released this week. Afterwards there were 3 telescopes set up for the public to view through.

October 3rd was our Annual General Meeting. After elections, Vance Petriew gave a presentation on Observing Logs and some things to consider when logging your observations over many years.

On October 10th and 11th, we had a special invitation to set up a booth at the Saskatchewan Science Centre for the "Ignite" weekend of science. Regina Centre members manned a booth there and entertained any questions people would have about astronomy. The Kalium Observatory was also open for this event as well. There were some very cool exhibits at the show.

The partial solar eclipse on October, 23rd was in a favorable part of the afternoon sky so a few members set up their telescopes in front of the IMAX Theatre in Regina to give views to the general public. It was mainly cloudy but we did get some nice glimpses through the clear spots. Unfortunately, we were not able to give any good views to the media.

Our November meeting saw a presentation by our National President, James Edgar, talking about the RASC and where we're going in the future. In addition, local president, Chris Beckett gave a presentation about his trip to the Jasper Dark Sky Festival where he met Chris Hadfield and Jay Ingram.

To close out the year, Shane Ludtke, gave a talk on Double Stars at our December meeting.

The list of events the Regina Centre participated in is much longer than what is in this report. Our active club has put on dozens of public events this year and our public outreach total, which includes over 3200 visitors to the Cypress Hills Observatory, totals around 4800 people this year.

Regina Centre member, Risa Horowitz, has been doing some great work combining art and astronomy. She's received great recognition for her 3D art display of Saturn and has had a couple of art shows and galleries in Canada featuring her works. We look forward to more innovative astronomy art from Risa in 2015.

Two Regina Centre members completed observing certificates in 2014. Phil Holloway was presented with his Explore the Universe Certificate and Vance Petriew completed the Deep Sky Challenge list and was awarded a certificate from the RASC. Congratulations to both!

Clear Skies,

**Vance Petriew**  
*Secretary*

St. John's Centre had another active year with 10 public meetings (Sept through June), annual star party, public observation sessions, Astronomy Day.

Meeting topics were:

- Marcellus Redmond—building a scope.
- Christmas Social—a dark and stormy night
- A short video on the Search for Life in the Universe. Tribute to Brian Peyton
- N. Damyanov, Interpreting Satellite Imagery
- Dr. John Lewis, MUN Physics Department. Topic "Neutron Stars"
- International Astronomy Day
- Amateur Star spectra work with pictures
- Summer plans—observatory construction, star party, observation sessions
- Review of summer activities, tribute to Ben Llewellyn
- Annual General Meeting—implement changes to centre constitution

St. John's summer weather started with a hot July, but wet August. Luckily we are able to complete the decking for the observatory during the summer and are now awaiting purchase of a 12 ft. dome for 2015 installation.

The annual Butterpot Star Party went ahead as scheduled with limited clear skies. We partnered with Parks Canada for two sessions at Signal Hill and Terra Nova and provided RASC material during the observing sessions. We expect to repeat these events during 2015.

We were shocked in June by the untimely death of member Ben Llewellyn. The Centre made a donation to the Autism Society in Ben's memory. We miss his presence and contributions. The centre gratefully accepted the donation of his telescope and will be available for equipment-loan to members.

The centre constitution was amended at our Annual General Meeting to incorporate RASC structure and membership class changes with additional centre-specific housekeeping changes. Centre President Chris Stevenson was awarded the RASC Service Award at the Society's General Assembly and the award was presented at the centre meeting.

Our centre website added a new section for member sketches to capture non-photographic member input, starting with contribution from Ben Llewellyn.

An exciting year !

**Randy Dodge**  
*Secretary*

# SARNIA

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CENTRE

Sarnia Centre meets monthly to discuss RASC business and Astronomy. We have few members but still are able to support some public outreach.

Last year:

- in April, 3 members conducted a sky tour for a “young naturalist” group—about 12 children,
- in May, 6 members hosted a sky party for International Astronomy Day—with roughly 50-75 visitors attending,
- in August, 6 members staffed a booth for “Hobbyfest,” a Sarnia event where local clubs can setup a display in city park, to raise community awareness of their activities.

We have been working to increase membership by:

- maintaining a Facebook group <https://www.facebook.com/groups/286531205397/>
- a webpage <https://sites.google.com/site/rascarnia/home>, and
- the above mentioned public outreach activities.

Clear Skies!

**Marty Cogswell**  
*Secretary*

# SASKATOON

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CENTRE

2014 was a busy year for Saskatoon Centre with activities involving public outreach, the Sleaford Observatory and The Saskatchewan Summer Star Party (SSSP). Rick Huziak spent many hours lobbying the City of Saskatoon and the Province of Saskatchewan through his efforts with the Saskatchewan Light Pollution Abatement Committee.

Observing Coordinator Larry Scott held observing nights every month at the Sleaford Observatory and also kept the grounds mowed and blowed. Larry started our year off with the Messier Marathon at Sleaford on March 28th.

Our public events kicked off on March 29th with public observing at the Centre Mall for Earth Hour. Roughly 100 people attended during the hour even though some of them thought they were just going to the movies. Astronomy Week continued April 4th with public observing at Lakewood Civic Centre with approximately 120 people attending. on April 5th we held public observing at the Beaver Creek Conservation Area and again had over 100 people with 70 of them attending a presentation by Ron Waldron in the theatre at Beaver Creek.

May 24 was Solar Observing at the Saskatoon Farmer's Market in conjunction with the Nature City Festival. Attendance was in the hundreds.

The Saskatchewan Summer Star Party ran from August 21 to 24 for its 18th year. Attendance was slightly over 300 people although 380 people had registered. Over 100mm of rain fell during the star party so many activities had to be moved indoors and there was no observing. The park staff informed us that it was nice and clear the day after SSSP ended. Speakers included: Murray Paulson (Edmonton Centre) “Chasing Solar Eclipses”; Alan Dyer (Calgary

Centre) “The Beauty of Prairie Skies”; Joshua Roth (USA) Night Myopia. Clinics were put on by Silvia Graca (Winnipeg Centre) and Gerry Smerchanski (Winnipeg Centre). There was also the telescope walk around tour with many attendees participating, and short presentations were given on Friday night by Dr. Alan Macklem (Winnipeg Centre); Murray Paulson (Edmonton Centre) and Richard Huziak (Saskatoon Centre). As usual Rick Huziak, Les Dickson and crew, put on a great star party except for the inland stationary hurricane, 2015 will be much clearer.

On October 18th Saskatoon Centre finished off the year's public events with the annual open house at Sleaford Observatory. Over a hundred people made the drive out to the observatory in a convoy led by Stan Shadick from the University of Saskatchewan.

Executive and General meetings were held every month except for July and August. Programs for the year are listed below:

January	Richard Huziak—“Summary of the 2013 General Assembly held in Thunder Bay and the concurrent opening of the David Thompson Astronomical Observatory.”
February	Jim Goodridge—“Eyepiece Theory”
March	Albert Holm (AAVSO) Via Webex—“Behind the Scenes at the Hubble Space Telescope”.
April	Hope Boyce and Taylor Bell—“Spectroscopy”
May	Jim Goodridge—“Do it yourself astronomy projects”
June	Muriel Miller—“Thoughts on the first year of a RASC membership.”
September	Jim Gorkoff—New Bylaws George Charpentier and Jim Goodridge—“2014 SSSP: See how 300+ astronomers managed to have a great time even though more than 100mm of rain fell during the star party.”
October	Richard Huziak - “Edmonton's Northern Prairie Star Party.”
November	Albert Holm (AAVSO) Via Webex—“Variable Stars: Stepping Stones to Understanding the Universe.”
December	RASC Potluck Christmas Social

**Jim Goodridge**  
*Centre President*

# SUNSHINE COAST

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CENTRE

The following is a summary of the events held in 2014 by the Sunshine Coast Centre.

- Michael Bradley—Capture the Path of the Sun with a Pinhole Camera
- Chris Gainor—The AVRO Arrow
- Dr. David Helfand—“A Grand Tour of the Universe”
- Dr. Aaron Boley—“Alien Worlds Around Distant Stars.”
- Spider Homeshool Star Party Porpoise Bay
- Dr. Jeremy Heyl—“High Energy Astrophysics: There's More Out There than Meets the Eye.”
- Dr. Garth Jones—“Cosmic Distances.”
- Halfmoon Bay FairCamp Olave Girl Guides.
- Sandy Hook Star Party.
- Gibsons Sea Calvalcade.
- Astronomy in the Park.
- Sunshine Coast Botanical Garden Festival.
- Dr. Ludo Van Waerbeke—“Dark Matter and Dark Energy.”
- Dr. Ingrid Stairs—“A Pulsar with Two White Dwarf

Companions" Annual General Meeting. Elections.

- Dr. Douglas Scott— "The Universe According to Planck."
- Christmas Party and Special General Meeting.

During the year we gave away about 200 Star Gazers

The local TV station enabled us to produce a number of Astronomy Programs, beginning with "Telescopes vs. Binoculars."

The building of the observatory progressed much more slowly than anticipated. The expectation is that it will be ready for operation this Spring, 2015.

**Bruce Fryer**  
*Secretary*

## THUNDER BAY CENTRE

2013-2014 marks our second year as a Not For Profit.

**Annual Meeting:** Thunder Bay Centre's annual meeting was held on the October 2013 meeting.

**Membership:** Ranged from a low of 48 to a high of 54 which was our highest ever. Presently at 48 members.

**Attendance:** Lowest was 12, highest 16. Most sessions had at least 15 in attendance.

### Centre Activities

**Monthly Observing Night For Members:** This is a new program that was introduced in October 2013. This will run every 4th Thursday of each month, including summer, regardless of weather. The growing attendance numbers is proving this program to be very successful. February's outing was particularly interesting as the attendees observed a super nova in M84.

The following were our outreach activities:

January	St. Joseph's Bethammi Nursing Home, Outreach Lead: Dave Gallant. Air Cadets, Outreach Lead: Brendon Roy Notes: Brendon gave presentations to two groups, 30 people in total. Also giving presentations was the local HAM Radio Club.
June	Outreach Location: Scouts Greywolf Camp, Outreach Lead: Brendon Roy. Audience consisted of very young to early teens. Sherbrooke School, Outreach Lead: Brendon Roy, Elementary School Students.
July	East Loon Lake Campers Association, Outreach Lead: Brendon Roy. Audience: About 40 people
August	Outreach Location: Blueberry Festival in Nipigon Ontario, Outreach Lead: Brendon Roy. Two presenta- tions were given. Quetico Park, Quetico Ontario, Outreach Lead: Brendon Roy, John Ross. Sibley Park, Outreach Lead: Brendon Roy, Dave Gallant, Randy Martin.
September	Lakehead Rotary Club, Outreach Lead: Brendon Roy
October	Dave Thompson Astronomical Observatory, Fort William Historical Park, Outreach Lead: Brendon Roy. The event was a lunar eclipse. It was well attended by the public.

### New Centre Equipment

**Projector:** This will provide the Centre greater capacity to do outreach and also enhance Centre activities.

### Awards

**Member Participation Program:** At the October meeting, President Brendon Roy announced a new program designed to encourage member participation with Centre activities and events. For each activity or event that a member participates in, for example doing a talk, writing an article for the newsletter or volunteering for the Centre, a ticket is entered with the member's name for a raffle to be held in June. This year, the raffle prize was a \$150 gift certificate to Khan Scope Centre.

This year's winner is Randy Martin. Congratulations Randy!

**Observing Awards:** There were no observing certificates awarded this year.

### Projects

**Fort William Historical Park Memorandum of Understanding:** The executive has received a draft MOU in June. The executive has reviewed the document and has returned it with input and questions. It is very close to completion.

**Andreas Buchholz**  
*Secretary*

## TORONTO CENTRE

This is a shortened version of the Toronto Centre annual activity report. The full report was published in the Toronto Centre *SCOPE* newsletter in January, 2015 and is downloadable from the RASC website.

The Toronto Centre participates in astronomy events at several locations around the city. During the reporting period from 2013 October 1 to 2014 September 30, we participated in several Ontario Science Centre star party events, organized by Mathieu Ranger and Sara Poirier.

Lecture Nights at the Ontario Science Centre were co-ordinated by our 2nd Vice-President, Prof. Paul Delaney from York University.

Twelve "Recreational Astronomy Nights" were organized at the Science Centre by Paul Markov, one of which included a swap meet.

We also provided a monthly solar viewing session at the Science Centre, organized by Shawn Lee on a clear-skies-only basis on the first Saturday of the month, and during sunny mornings during Astronomy Week, May 5-9.

This year we hosted N.O.V.A. Program, "New Observers to Visual Astronomy" at the Ontario Science Centre. This series of 8 classes held on Wednesday evenings, hosted by a variety of members, was open to the public too.

We had our traditional joint lecture with the Royal Canadian Institute on February 9th, when Dr. Peter Brown described The Chelyabinsk Airburst Decoded: Impact Hazards from Small Asteroids.

This year at the Toronto Science and Technology Fair, we awarded Thomas Wentz and Alice Xu from Churchill Heights Public School the astronomy prize for their project entitled "Nuclear Pulse Propulsion." And, at our meeting on March 5, Ralph Chou had the

pleasure of presenting the Gold Medal of the RASC to the 2013 recipient from the University of Toronto, Mr. Andrey Veyner.

The National RASC initiated a new award program, the RASC Fellowship, which recognized two Toronto Centre veterans: Peter Broughton and Randy Attwood, in December.

The Toronto Centre also has a set of awards for our members who have accomplished great achievements:

- Ray Thompson Award for Astrophotography: Bill Longo
- Ostrander-Ramsay Award for Astronomical Writing: Nicole Mortillaro
- Jesse Ketchum Award for Construction: Nicole and Gilles Gaudet, and Michelle Johns
- Andrew Elvins Award for Public Outreach: Chris Vaughan
- Bertram Topham Award for Observing: Stuart McNair
- H.A. Winerals Award for Service (The President's Award): Gilles Gaudet

The above six awards were presented at the Annual Open House and Picnic at the David Dunlap Observatory on June 7. About 60 members and some guests from as far away as Germany attended this event.

This year we celebrated our sixth season managing, operating, and maintaining Canada's largest optical telescope at the David Dunlap Observatory in Richmond Hill. More than 3,300 enthusiastic visitors joined us for public viewing nights, star talks, family nights, and private evening programs for Scouts, Guides, and school groups. This brings us to over 20,000 visitors since the Toronto Centre took over operations of the observatory in 2009. The Toronto Centre continues to have a long-term lease on the observatory with Corsica Development Inc.

At the beginning of the current reporting period, the DDO hosted the annual meeting of IOTA, a gathering of asteroid occultation enthusiasts on the weekend of 2013 October 5.

The public summer programs began on 2014 May 10, under a clear sky for International Astronomy Day, with 330 visitors attending.

In all, for fiscal 2014 the DDO ran a total of 57 education and outreach programs, which is an increase from last year. This effort involved over twenty-six hundred hours of volunteer effort in program delivery alone. A new HD projector was purchased using the 2014 Helm Fund monies. We were also awarded a TD Securities

Hope Charities Grant of \$3,125 for the DDO to run several Grade 9 science class visits for financially disadvantaged schools. These programs will take place next spring.

As a registered charity, we continued to provide opportunities for high school students to gain their required community service hours by volunteering at the DDO to assist in delivering our public programs. We had a total of 28 students participate this season.

During the Autumn 2013 semester, Seneca College of Applied Arts and Technology hosted a credited astronomy course at the DDO.

A major effort by Michelle Johns and Gilles & Nicole Gaudet was the extensive clean up of the R.K. Young 19-inch telescope and south dome atop the Administration Building. The telescope was built by the first DDO Director, Dr. R.K. Young in 1929 and is now back in operation after decades of non-use. The telescope will be used by members for general observing and for special projects such as asteroid occultations.

The 800 lb. David Crampton aerial camera, having sat in sections on the floor for nearly 50 years, was lifted back into place and is now proudly on display. Also on display in the dome foyer after 79 years, the massive wooden forms that held the mirror for transport from England were assembled and carefully framed.

The Toronto Centre also operates the Carr Astronomical Observatory outside the Town of the Blue Mountains, Ontario, now completing its 16th year. The Carr Observatory Site Management Committee undertook this year to replace the main clubhouse roof. The work required temporary removal of the internet antenna and the Western University meteor network all sky camera. The new roof is expected to have a useful service life of over 25 years. This is excellent as it will be the only roof we install before 2037, until which time the Toronto Centre has agreed to manage the site as an observatory under agreement with the donor, the late Cliff Carr. (After that date there will be no restriction on use or clear sale of the property.)

This summer we built five lockers inside the CAO garage for members to rent to store telescope equipment. The My Own Dome Lot project implemented in recent years, which allows members the privacy of their own dome with power and internet at the CAO currently has one of the six available sites available for lease. The five sites occupied by members bring in valuable income - \$3960



David Dunlap Observatory Awards Picnic—photo by Ian Wheelband



CAO Star-B-Que—photo by Risa Horowitz

annually to the Toronto Centre. \$1600 in annual income also comes from the lease of the surplus CAO acreage to a local farmer. Income from the sale of annual CAO passes and user fees exceeded \$7400.

Ian Wheelband is the new chair of the CAO subcommittee on Public Outreach. Ian helped us stage the Autumn Open House on 2013 October 5, and the Wasaga Beach Retired Teachers on 2014 September 23.

On Saturday, July 26, we held a Star-B-Que for members, families, and friends at the CAO. It was well attended with approximately 40 people out for a great day of activities.

The most significant change organized by our Observational Activities Committee during the year was to take on our Telescope Loan Program (TLP) from our Property Committee. This, coupled with the receipt of a very generous donation of equipment from Charles Darrow, has allowed a rejuvenation and expansion of the TLP for the benefit of less experienced members, as a benefit of RASC membership. Additional TLP Coordinators, Marc Teitelbaum and George Slavinski, Peter Richards, and Paul Mortfield have come forward to promote the program.

There are 3 sets of monthly observing events co-ordinated by the Observational Activities Committee:

- City Star Parties, held at Bayview Village Park, and High Park if there is interest
- Dark-Sky Star Parties, held at Long Sault Conservation Area, and
- Solar Observing at the Ontario Science Centre

In addition, Tailgate Astronomy evenings are held on an ad hoc basis, weather permitting at the DDO, and Members' Nights at the DDO were scheduled during the cooler months.

In total, we had 536 members participate and reached 2001 non-members with these events (where a member and non-member represent one person present for one event).

The Public Education Committee this year held fewer than the usual number of presentations, due to the lack of volunteers available. Committee members did hold presentations and star parties for 6 libraries, 4 Brownies, 1 Guides, 1 Beavers, 1 Wolf Cubs, 1 Scouts, 5 schools, 5 general interest, and 2 special interest groups. In the end the Public Education Committee held 26 presentations and star parties for 2,320 children and adults and made \$887.00.

Four members completed observing certificate programs this year: Maggie Fei, Paul Mortfield, and Felipe Gonzalez completed "Explore the Universe," and Lynn Chetwynd completed the Herschel 400 Observing List.

There are 547 regular members of the Toronto Centre, 75 life members, 20 youth members, 203 family members, 21 student asso-

ciates, and 5 affiliate members for a total of 871, where our total at this time last year was 783. I am not aware of any Toronto Centre members who have passed away during the reporting period. On behalf of the Council, I thank all members for your continued trust and support of our continuing saga.

**Eric Briggs**  
*Secretary*



Carr Astronomical Observatory Star-B-Que—photo by Doug Isherwood

## VANCOUVER CENTRE

2014 was another successful year for the Vancouver Centre. We built on partnerships with Metro Vancouver Parks, Simon Fraser University, the University of British Columbia, British Columbia Institute of Technology, Global Television, Shaw TV, the MacMillan Space Centre, the Richmond Public Library, the Maple Ridge Public Library, the Boy Scouts and Girl Guides, Canadian Telescopes, and Vancouver Telescopes. In total, we hosted 14 major events including 11 lectures, 21 observing nights, and we participated in 12 other community outreach events.

Our successful initiatives for 2014 include the following:

- Build a better line of communication with RASC National.
- Increase membership in 2014. We began the year at 190 members, now sitting over 200.
- Assess and take action toward the AOMO, a RASC facility that has been ignored in years past
- Purchase a public address system to improve our monthly lectures and other events with RASC speakers
- Improve our selection and interest in RASC merchandise.

We were unsuccessful in achieving the ambitious goal of 24 observing events in 2014. We finished with 21 total observing events, up from 17 in 2013, however on the three most significant evenings of the year, two lunar eclipses and a solar eclipse, were cancelled due to weather which would have otherwise met our goal. Our best attended observing events were due to a stretch of clear skies in late January combined with the surprise appearance of a supernova in Messier 82, the Cigar Galaxy. We did, however, achieve our goal of 6 events on the Simon Fraser University campus and would have exceeded this mark had any of the eclipse events been held as scheduled. \*At the time of this report, there are 20 days remaining in 2014.

We were also unsuccessful in organizing our library in 2014, however this is due to construction delays on the Trottier Observatory. We expect to complete this goal once the observatory opens in 2015.

There were no motions put forth by the council in 2014. Council felt that our current set of bylaws and proceedings were adequate for operations of Vancouver Centre.

Regular Programming—14 events (includes 11 lectures)

### Public Relations

Members made 8 television appearances, 3 radio interviews, and several contributions to local newspapers in 2014. We continue to maintain a strong online presence with a primary focus on Meetup.com which now has over 1,200 subscribers in Vancouver receiving notifications of our events. We regularly see new faces at all events who find us through the meetup.com website.

### Merchandise

On top of our regular merchandise, in 2014 we began selling RASC BC Centres observing jackets and hoodies, which were incredibly popular at the AGM.

### AOMO

Alan Jones has taken charge of the AOMO restoration effort which is made excellent progress in 2014. There was over 200 volunteer hours invested by our membership at the AOMO site. In 2014 we repaired the structure of the building, fixed all leaks, and have removed all equipment for servicing over the upcoming winter.

### NOVA

Our bi-monthly newsletter continued strong in 2014 with 6 more editions. *Nova* is available in hard copy at monthly lectures, available online, and we mail it to a handful of long-time members.

### Telescope Loaner Program

Our telescope library has 10 telescopes available for our membership. In January several volunteers cleaned out our storage space to organize the telescope library and dispose of old equipment. We received a generous equipment donation from White Rock resident Cal Mark in 2014, including several telescopes and a  $H\alpha$  solar telescope.

### Light Pollution Abatement

Our LPA position was stronger than ever in 2014, even with the resignation of our LPA chair earlier this year due to personal commitments. Vancouver Centre is working with NiteBrite and Shaw TV on multiple Light Pollution related programs to be released in 2015.

### Special notes on the Vancouver Centre

Our membership has been involved physically and financially with the Trottier Observatory currently under construction on the campus of Simon Fraser University.

The Vancouver Centre made a strong showing at the Annual General Assembly in Victoria. We had 15 of our centre members in attendance. We were the only group with centre vests and jackets and we were the only group to commute to and from Victoria by private boat.

\*Vests, jackets, boat, and fuel paid for by individuals and not RASC funds.

**Scott McGillivray**  
*Secretary*

In addition to the usual activities and events, the Victoria Centre added observing at Cattle Point, made an enormously successful trial run at reactivating public access to the DAO and successfully hosted the 2014 General Assembly.

### Public Outreach:

From 2013 September 1 to 2014 August 31.

- Total Galileo Moments: 10142
- RASC member participation: 56
- Number of Volunteer Hours: 1159
- Number of Outings: 68

These outings included: (Schools, Cubs, IAD, Symphony Splash, Saanich Fair, Hobby Show, Solar Viewing, William Head Pen., Cattle Point, Star Party, etc.) I wanted to point out that despite preparing for the GA, embarking on public events at the DAO and a slow start to the school year with the strike, the Victoria Centre still surpassed 2013 in Galileo Moments and Volunteer Hours.

### Regularly Scheduled Meetings and Functions:

Sid Sihu continues to hold the New Observers Group every fourth Friday of the month (except in summer).

The Monday night Astronomy Café continues to be held at the Fairfield Community Centre with John McDonald and Chris Purse now hosting. They have made a more formal schedule with pre-planned speakers.

The monthly general meetings, held the second Wednesday of the month excluding July and August, continue with a short meeting followed by an invariably excellent presentation

The council meetings, are held the first Wednesday of every second month, but in preparation for the GA 2014, there were many additional meetings.

The Active Observers Group continues and is well-organized with weather-related viewing notifications.

*Skynews*, our monthly publication, keeps the membership up-to-date on news and upcoming activities.

The Victoria Centre website was revamped by Joe Carr and is even better.

### Observing Activities

VCO has undergone a variety of repairs to the building including improvements to the wet floor issues and improved air filtration. The broom surrounding the building has been removed. John McDonald cleaned the 14-inch corrector plate. The GA 2014 visitors were shown around the night of the BBQ. And finally, the Members in Charge were given a refresher course.

Urban Star Park—Cattle Point: This event now occurs monthly on Fridays closest to the first quarter phase of the moon (or the last quarter as noted by a specific date). Cattle Point is one of only a few Urban Star Parks in Canada, where artificial lighting is strictly controlled and the public is educated about the benefits of reducing light pollution. The dates are on the website.

RASCals/Metchosin Star Party for 2014: This event, held from July 25 to 27, had a respectable turnout: 50 chairs were filled and another 20 people were standing. We had two excellent speakers: John McDonald about Space University and Chris Gainor on the History of Space Exploration.

We raised about \$700 to \$800 in contributions so that we broke even and possibly a bit better.

Messier Marathon: Unfortunately, this year the scheduled days, March 28 and 29, were cloudy and the event was cancelled.

### Other Activities

International Astronomy Day: For 2014, it was held at the Royal British Columbia Museum and was a mutually successful enterprise with the museum having more paying customers than typical for a Saturday and with over 700 of them visiting the astronomy “hall” and about 210 at the Hill that evening.

Star Parties at the DAO: This summer a bit of an experiment was undertaken by our members; they helped host seven public star parties which ranged in numbers from about 25 participants (on a rainy evening) to almost 500 one night.

With a total of about 2002 people over the 7 nights, Victoria Centre is encouraged to do it next year and plans to put in a proposal in early 2015. There will be discussion about increasing the number of days, the offerings and access to the Centre of the Universe building. A special thanks to Lauri, Nelson, Sherry, & Sid who have been deeply involved with this endeavour and who liaise with the long-term committee “Friends of the Observatory” (community members as well as RASC).

GA 2014: By all accounts, this was very successful. There were about 110 attendees. Everybody who was anybody was there: the “Queen,” Bob McDonald, and even Winston Churchill made a posthumous appearance. We even made a small profit. Way to go Victoria Centre RASCals!

**Joy Fisher**  
*Secretary*

## WINDSOR CENTRE

Windsor has consisted of a membership average of about eighty-five people during 2014. Monthly meetings for members and visitors are held at the Ojibway Park Nature Centre in Windsor's far west side. Various main talks presented at meetings this year have included an Introduction to Digital SLR Photometry, Coloured Double-Star Observations, Historical Models of our Solar System & Kepler's Laws of Planetary Motion, and Observing Southern Skies.

The past year saw the unfortunate passing of two Windsor Centre members: One of our longest-serving members for more than 40 years, Mr. Vern Richards passed away suddenly on April 6, at 85 years of age. Also, Mr. Rod Clark died peacefully on April 22, at the age of 90. Like Vern, Rod had been a friendly and familiar face at regular meetings. Both men are missed by family and colleagues alike, and will be remembered by us all.

People have found it easy to find out about our centre online through our primary local website [www.rascwindsor.com](http://www.rascwindsor.com), and also via Facebook. Our well-detailed newsletter can be viewed online and printed copies are given out at meetings.

The Windsor Centre manages its own observatory far outside the city within the municipality of Lakeshore. Named after one of Windsor Centre's founding members, Hallam Observatory consists of a 12-foot high dome with a warm-up room connected to it, including an observation deck attached on the outside. Within the dome is our pier-mounted Celestron 14 Schmidt-Cassegrain telescope, with an Astrotech 111 refractor mounted onto it with a CCD camera used for auto-guiding, all of which is operated via a



Windsor Centre picnic 2014 Hallam Observatory photo by Mike Mastronardi

warm room PC. Public Open House evenings are held once each month, with members able to receive their own key to access the site following training on use of dome and equipment and paying an annual fee.

There has been a few booked group visits to the observatory over the past year, such as one by nearly 30 students from a private high school, a church group, and a small group of various friends and colleagues of Windsor Centre members.

Point Pelee National Park remains open for the public until midnight once a month during Dark-Sky Night events, where visitors are welcome to bring their own telescopes and equipment to utilize this southern Dark Sky Preserve. Every two months Windsor members are always on hand with their own astronomical equipment to provide views of the splendours of the night.

For the past several years, our Light Pollution Abatement Director has continued to remain steadfast and dedicated to the cause of preserving our dark skies against encroaching sky glow from city and county intersection lights. The year 2014 has been no exception, as plenty of hard work has been done to the best of ability to ensure county engineers abide by full cut-off lighting standards. It is unfortunate that one of the small towns near our observatory is having new light fixtures installed that do not conform to FCO standards, despite our letter requests and other towns throughout Essex County having already adopted proper lighting. Earlier in the year, centre members wrote to their local members of parliament and project managers to request that FCO lighting be used on an upcoming county road extension, and the response from some indicated a possibility our concerns will be addressed in the near future. Our Centre extends its thanks to our director as he felt the time was right to wind down his activities in this field starting this new year. LPA reports from 2014 can be found on our main web page.

**Matt McCall**  
*Secretary*

The Winnipeg Centre continues to actively draw new members and recently surpassed the 200-member mark. Our regular meetings are held on the second Friday of the month at the University of Manitoba, Fort Garry Campus, St. John's College at 92 Dysart Road in the Robert B. Schultz lecture theatre. The meetings are formatted into two halves, separated by a coffee break. In the first half, we have announcements and some regular short presentations such as "What's Up," a review of upcoming astronomical events, and "What's New," a presentation on the latest astronomical discoveries presented in layman's terms. We will also have sessions on new "Astronomy Apps," or a Constellation of the month. In the second half we have our Keynote Speaker. One benefit of our close association with the University of Manitoba, is that it allows us to feature many quality presentations, based on the faculties latest astronomical research projects[RA1]. The meetings are well-attended and often draw 80 or more members and guests. The Winnipeg Centre continues to support the St. John's College by providing monies for a scholarship award for one student.

Our Centre maintains an observatory at University of Manitoba's Glenlea Research Station, about 15 km south of the city of Winnipeg. There we have a dome which houses a 12-inch Meade LX telescope; plus we have a warm room complete with restroom facilities. A large concrete pad to the south, complete with power posts, allows for the members to set up their own equipment. This site is where we hold our "Member's Observing Night," on the Saturday following our regular meetings. Our Observatory Director, Bryan Stach has been actively upgrading the building, including the installation of new carpet. There are some concerns with the encroachment of light pollution, leading to ongoing debate on possible future relocation. In 2014, we had no issues with flooding from the Red River!

We have an active "free" loaner telescope program, with three Dobsonian telescopes. We generally lend them out for periods of more than a month. We felt this was necessary, particularly with the unfavourable weather we sometimes experience. Plus we have a number of scopes such as solar scopes, maintained by our Councillors, which are used for Public Observing events.

The Winnipeg Centre participates in numerous regular astronomy events; some where we provide viewing opportunities for the General Public. One such event is the "Astronomy Night," held in March for the members of Fort Whyte Alive, a regional conservatory agency. It features our members providing presentations during a



Winnipeg Centre Public Event 2014

Banquet Dinner, followed by an observing session with telescopes outside in the cold. We unfortunately did not have clear skies for the post-dinner observing event.

On a regular basis we also support the Oak Hammock Marsh, a nature centre located 30 km north of the city, for their monthly Astronomy Observing Night.

New in 2014, the Centre has partnered up to support the University of Manitoba with their "Open House" program. Held on the first Thursday of the month during the scholastic year, it welcomes university students to come to the University Planetarium for a presentation. It is followed by the opening of the Ewen Campus Observatory, with supporting telescopes provided by Centre members, when weather permits.

We participated in the 2014 International Astronomy Day festivities by setting up a daytime display inside of a local Chapter's book store, with solar telescopes setup for viewing outside its doors. We then proceeded to Assiniboine Park, our largest city park, where we set up for an evening observing session.

In 2014, we hosted one major Public Observing event, the Annular Solar Eclipse in October. In addition, we did have members who support the astronomy programs of the Birds Hill Provincial Park in Manitoba and the Rushing River Provincial Park in Ontario. They include evening presentations, daytime displays and late night observing sessions. Reportedly, they are the most popular of their public events programs of the Provincial Parks.

The Winnipeg Centre also supports the Manitoba Schools Science Festival by providing judges, plus a cash prize to the person with the best astronomically based display. Plus we attend a Science Teacher's Symposium, where we help to promote the RASC teacher's guide Skyways. Our membership will also provide their time and telescopes for requested star party events, such as Scouts or schools.

One of the favourite events we promote for our membership is an annual event called the Spruce Woods Star Party. Organized again by Silvia Graca, it is held at Spruce Woods Provincial Park, about 200 km west of Winnipeg, in a rural area with very little light pollution. In 2014, it was held from August 29 to September 1. The Park Administration provides us with a separate private campground area, in exchange for a Public Observing night on a different weekend. This year's focus was on Observational Astronomy, with presentations by several members on the "How to Observe the Planets" and "Deep-Sky Objects". Plus we had a presentation on "Building Your Own Observatory" and "Dark-Sky Myopia."

The star party also featured the well-respected "Gerry's Bino Tour," by Gerry Smerchanski, which is always welcome and attended by the majority of the 60 campers. We did have some success observing; however one evening required the scheduling of a movie night, which featured us projecting a movie onto the white canvas of our registration tent. The last evening features a banquet dinner in the nearby town of Glenboro. The event closed with a holiday Monday morning Pancake Breakfast provided by member Ken Metcaff and his wife Janet. The SWSP event is very important to the Winnipeg Centre, as it provides not only an observing event but is an important socializing event for the membership.

In exchange for the free and exclusive use of the "Winter Camping area" for the SWSP, the Winnipeg Centre provided members for the Spruce Woods Public Observing Night, held three weekends earlier. We provide speakers for evening's event, followed by an observing session.

Finally, on the business side, the Winnipeg adjusted its Financial Year to extend to December (previously it ended in September).

Starting in 2015, the financial year will match the Calendar year, followed by our Elections and the Business meeting in January.

The Winnipeg Council voted to change our newsletter *Winnicentrics* delivery method from a paper copy to an electronic copy only.

**Stan Runge**  
*Secretary*



Winnipeg Centre SWSP Group 2014

# CENTRE TREASURERS' REPORTS FOR FISCAL YEAR 2014

		Belleville	Calgary	Edmonton	Halifax	Hamilton	Kingston	Kitchener-Waterloo	London	Mississauga
<b>REVENUE</b>										
Membership	Membership Fees: Centre Fee	733	11,008	5,208	2,730	3,106	1,404	2,768	3,202	3,295
	Membership Fees: Associate				69					
	Membership Fees: Affiliate									
	Membership Fees: other									
	Centre Newsletter				170					
Donations / Fundraising	Donations		2,972	350	84		1,207	200		
	Fundraising							476		
Sales Revenue	Sale of Observer's Handbooks						25			
	Sale of Observer's Calendars		580	2,020	660	225	580	513	406	450
	Sale of Beginner's Observing Guides							.		
	Other Publication Sales							1,333		
	RASC promotional items		255						20	40
	Other Sales		567		145		35			1,215
Subscription Revenue	Astronomy / Sky & Telescope									
	Other									
Events Revenue	Star Parties	1,192	2,941	1,090	4,070					
	Annual Dinner		2,812					1,188	580	
	Astronomy Day									
	BIYA									
	Meetings									
	Other Events			8,350		27,700				
General Assembly Revenue	General Assembly									
Miscellaneous Revenue	Interest and Dividends	3	12	62	209		266			
	Advertising									
	Observatory Site		195							
	Equipment Rentals/Loans		2,000					190		
	Miscellaneous		14	56	18	1,660		2,024		
<b>TOTAL REVENUE</b>		<b>1,928</b>	<b>23,342</b>	<b>17,136</b>	<b>8,155</b>	<b>32,691</b>	<b>3,517</b>	<b>6,668</b>	<b>4,208</b>	<b>5,000</b>
<b>EXPENDITURES</b>										
Sales Expenses	Observer's Handbook						83			
	Beginner's Observing Guide									
	Observer's Calendar		547	1,284	576	225	391	371		371
	Other Publications	54	94							
	Newsletter				244		50		242	
	RASC promo items		990	4,818				1,359		28
	Other		933		40					274
Event Expenses	Star Parties	883	2,921	8,373	2,381		21			810
	Annual Dinner		2,249					1,244		
	Astronomy Day							526		
	BIYA				635					
	Meetings		933	2,608	365		811	452	79	900
	Other Events	78	2,700	40,742		13,309	88		35	
Travel	General Assembly and Council Meetings	724	154		380					
Administrative Expenses	Office Administration		172	251	254		125	11		130
	Equipment and Supplies		778	962	196			1,316		194
	Insurance		2,416	550	1,185	486	681	486		
	General Expenses and Audit		925		30	727		55		
	Awards	200	736	250			125		24	
	Donations		325	7,100	200				1,100	120
	Advertising									
Miscellaneous Expenses	Observatory and Site Expenses		2,869	9,019	578	4,090	506		1,498	
	Library		102							
	Depreciation			8,239	2,838					1,096
	Miscellaneous	16	2,043	3,454	113	1,048		5,820	244	144
<b>TOTAL EXPENDITURES</b>		<b>1,955</b>	<b>21,887</b>	<b>87,648</b>	<b>10,015</b>	<b>19,885</b>	<b>2,881</b>	<b>5,820</b>	<b>3,211</b>	<b>4,067</b>
<b>SURPLUS OR DEFICIT ON OPERATIONS</b>		<b>-28</b>	<b>1,455</b>	<b>-70,512</b>	<b>-1,860</b>	<b>12,806</b>	<b>636</b>	<b>848</b>		<b>933</b>
ASSETS	Current assets	5,565	25,372	66,919	18,430	19,484		14,559		13,925
	Capital assets	720	27,711	63,268	14,299	104,102				4,384
LIABILITIES			198							

# CENTRE TREASURERS' REPORTS FOR FISCAL YEAR 2014

		C. F. de Montréal	New Brunswick	Niagara	Okanagan	Ottawa	Prince George	Québec	Regina	St. John's
<b>REVENUE</b>										
Membership	Membership Fees: Centre Fee	3,078	1,544	1,548	2,124	5,931	1,306		1,517	1,358
	Membership Fees: Associate									
	Membership Fees: Affiliate									
	Membership Fees: other				470					
	Centre Newsletter									
Donations / Fundraising	Donations	500		164	15,500	1,736	1,922		746	85
	Fundraising	882		138	6,892		13,262			
Sales Revenue	Sale of Observer's Handbooks									
	Sale of Observer's Calendars	289	830	186	868	1,530				476
	Sale of Beginner's Observing Guides									
	Other Publication Sales									
	RASC promotional items				415				1,115	
	Other Sales			786	140					
Subscription Revenue	Astronomy / Sky & Telescope									
	Other									
Events Revenue	Star Parties							466	4,200	
	Annual Dinner				6,413	2,100				
	Astronomy Day									
	Other Events	849	90							470
General Assembly Revenue	General Assembly									
Miscellaneous Revenue	Interest and Dividends	605		118	15	463				2
	Advertising									
	Observatory Site					560				
	Equipment Rentals/Loans				25	285				
	Miscellaneous			192	637	500				
<b>TOTAL REVENUE</b>		<b>6,203</b>	<b>2,464</b>	<b>3,132</b>	<b>33,499</b>	<b>13,105</b>	<b>16,490</b>	<b>466</b>	<b>8,048</b>	<b>1,921</b>
<b>EXPENDITURES</b>										
Sales Expenses	Observer's Handbook									
	Beginner's Observing Guide									
	Observer's Calendar	267	823	132	554	1,216				535
	Other Publications									
	Newsletter				54					
	RASC promo items		100	110	570				809	
	Other			732	406		26			
Event Expenses	Star Parties		365	169					2,824	
	Annual Dinner	79	1,092		2,259	2,661				
	Astronomy Day									
	BIYA		325						20	
	Meetings	61	324	658	82	704		35	2,483	182
	Other Events	322				81				
Travel	General Assembly and Council Meetings		182		421					
Administrative Expenses	Office Administration	316	126	348	205	559		30	1,003	
	Equipment and Supplies		69		268	3	213			
	Insurance				486	2,049	22		486	486
	General Expenses and Audit		23	8	1,565		986	68	770	
	Awards			47						75
	Donations	230	1,200							
	Advertising		23				42			
Miscellaneous Expenses	Observatory and Site Expenses	1,531		61	23,687	1,361			587	2,759
	Library		31					104		
	Depreciation	3,529		1,215		1,199				
	Miscellaneous	952		274					735	250
<b>TOTAL EXPENDITURES</b>		<b>7,287</b>	<b>4,685</b>	<b>3,754</b>	<b>30,557</b>	<b>10,087</b>	<b>7,899</b>	<b>237</b>	<b>9,717</b>	<b>4,287</b>
<b>SURPLUS OR DEFICIT ON OPERATIONS</b>		<b>-1,084</b>	<b>-2,221</b>	<b>-622</b>	<b>2,942</b>	<b>3,018</b>	<b>8,591</b>	<b>229</b>	<b>1,669</b>	<b>-2,366</b>
ASSETS	Current assets	72,329		7,709	25,584	48,761	15,476	559	10,785	25,303
	Capital assets	30,848		18,266	217,399	12,458	109,070		71,648	25,303
LIABILITIES						208	129			

# CENTRE TREASURERS' REPORTS FOR FISCAL YEAR 2014

		Sarnia	Saskatoon	Sunshine Coast	Thunder Bay	Toronto	Vancouver	Victoria	Windsor	Winnipeg
<b>REVENUE</b>										
Membership	Membership Fees: Centre Fee	417	2,224	826	889	12,121	5,175	3,817	2,006	5,077
	Membership Fees: Associate									
	Membership Fees: Affiliate								510	
	Membership Fees: other					5,776				
	Centre Newsletter									
Donations / Fundraising	Donations	50	531	3,787	100	10,565	66	939	682	150
	Fundraising					50,668		1,205	284	
Sales Revenue	Sale of Observer's Handbooks					345	76			
	Sale of Observer's Calendars			367	768	2,164	116		405	1,280
	Sale of Beginner's Observing Guides									
	Other Publication Sales					645				
	RASC promotional items					776	3,716			
	Other Sales		437			1,040		850		178
Subscription Revenue	Astronomy / Sky & Telescope									
	Other									
Events Revenue	Star Parties		15,861							
	Annual Dinner							1,935		
	Astronomy Day									
	Other Events			83						
General Assembly Revenue	General Assembly							1,186		
Miscellaneous Revenue	Interest and Dividends	1			6	498	8,628	2		55
	Advertising		432							
	Observatory Site					859				
	Equipment Rentals/Loans									
	Miscellaneous			6,161	30	12,367				
	Helm Fund									
<b>TOTAL REVENUE</b>		<b>468</b>	<b>19,485</b>	<b>11,224</b>	<b>1,762</b>	<b>85,457</b>	<b>17,777</b>	<b>9,934</b>	<b>3,887</b>	<b>6,740</b>
<b>EXPENDITURES</b>										
Sales Expenses	Observer's Handbook					200	52			
	Beginner's Observing Guide					200				
	Observer's Calendar	90		493	805	1,200	79		322	1,293
	Other Publications									
	Newsletter				164		3,084	143		592
	RASC promo items					500				
	Other		471							
Event Expenses	Star Parties		14,332					551		
	Annual Dinner	250						1,995		
	Astronomy Day						597	98		
	BIYA									
	Meetings			118	85		2,690		1,041	30
	Other Events		484	450	1,468					1,098
Travel	General Assembly and Council Meetings			246			574			509
Administrative Expenses	Office Administration		915	188	139	22,850	65	811		
	Equipment and Supplies				799	5,498			143	
	Insurance		1,565			4,026	486	500	2,314	599
	General Expenses and Audit	2		379		4,750	1,314			60
	Awards					404		192		600
	Donations									
	Advertising						942			
Miscellaneous Expenses	Observatory and Site Expenses		2,256	6,939		47,600	904	667	980	209
	Library									
	Depreciation		1,293				888			
	Miscellaneous		502	4,150	96	4,000	1,959	1,285	47	361
<b>TOTAL EXPENDITURES</b>		<b>342</b>	<b>21,352</b>	<b>12,964</b>	<b>3,556</b>	<b>91,228</b>	<b>13,634</b>	<b>6,242</b>	<b>4,847</b>	<b>5,351</b>
<b>SURPLUS OR DEFICIT ON OPERATIONS</b>		<b>126</b>	<b>-1,831</b>	<b>-1,740</b>	<b>-1,794</b>	<b>-5,771</b>	<b>4,143</b>	<b>3,692</b>	<b>-960</b>	<b>109</b>
ASSETS	Current assets	2,197	30,419	6,308	7,724	97,551	368,364	11,770	4,307	
	Capital assets		24,564			375,500	10,705	53,107	80,000	
LIABILITIES			55,485				1,323			

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Treasurer: Garth Penn  
Secretary: Joanne Burns  
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President: Robyn Foret  
First Vice-President: Steve Donaldson  
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Treasurer: Greg Bridger  
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Past President: Ross Sinclair  
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First Vice-President: Paul Heath  
Second Vice-President: Ian Anderson  
Treasurer: Jim Millar  
Secretary: Chris Young  
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Vice-President: Mark Pickett  
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President: Kim Hay  
Past President: Susan Gagnon  
Vice-President: Greg Latiak  
Treasurer: Kevin Kell  
Secretary: Steve Hart  
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Past President: Gerald Bissett  
Vice-President: Bill Blackport  
Vice-President: Andrew Hill  
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Secretary: Jim Goetz  
National Representative: Terry Torra

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Past President: David McCarter  
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Vice-President: Andrew Opala  
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National Representative: Frank Tomaras  
Directors: Lloyd Coffin  
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Richard Latulipe  
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1st Vice-President: Marc Arsenaault  
2nd Vice-President: Adrien Bordage  
Treasurer: Emma MacPhee  
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National Representative: Chris Weadick

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National Representative: Frank Tomaras

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Treasurer: Glen Harris  
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Vice-Président: Daniel Tardif  
Trésorier: Pierre Desrosiers  
Représentant national: Pierre Desrosiers  
Secrétaire: Daniel Tardif

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Treasurer: Shane Maitland  
Secretary: Vance Petriew  
National Representative: Peter Hagar  
Past President: Chris Beckett

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President: Chris Stevenson  
Vice-President: Garry Dymond  
Treasurer: Doug Grouchy  
Secretary: Randy Dodge  
National Representative: Marcellus Redmond

Webmaster: Craig Peterman  
Observing Director: Robert Babb  
Librarian: Fred Smith  
Membership: Marcellus Redmond

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Secretary: Martin Cogswell  
Treasurer: Martin Cogswell  
Vice Treasurer: Ralph DeJong  
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Secretary: Tenho Tuomi  
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Sleaford Site Coordinator: Darrell Chatfield  
Councillor at-large: Les Dickson

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Secretary: Eric Briggs  
National Representatives: Eric Briggs  
Rajesh Shukla  
Laila Zichmanis  
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Recorder: Catherine Carr  
Councillors: Miachel Crabtree  
Gilles Gaudet  
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Director of Telescopes: Harvey Dueck  
Librarian: William Fearon  
Membership: Rohit Grover  
Events Co-ordinator: Suzanna Nagy  
Education: Bill Burnyeat  
Observatory Chair: Alan Jones  
Webmaster: Harvey Dueck  
LPA Chair: Jim Ronback  
*Nova* Editor: Gordon Farrell  
Observing: Scott McGillivray  
Public Relations: Scott McGillivray  
Speakers: Barry Shanko  
Merchandise: Kenneth Lui  
At Large: Terry McComas

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President: Sherry Buttner  
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2nd Vice-President: Chris Purse  
Treasurer: Bruce Lane  
Secretary & Recorder: Joy Fisher  
Librarian: Michael Michaud  
Telescopes: Sid Sidhu  
National Representative: Lauri Roche  
*Skynews* Editor: Malcolm Scrimger  
Membership Co-ordinator: Chris Purse  
Webmaster: Joe Carr  
Observing Chair: Michel Michaud  
Jim Stillburn

### WINDSOR CENTRE

c/o Greg Mockler  
1508 Greenwood Road  
Kingsville ON N9V 2V7  
[www.rascwindsor.com](http://www.rascwindsor.com)

Honorary President: Dr. William Baylis  
Past President: Rick Marion  
President: Randolph Groundwater  
1st Vice-President: Mike Mastronardi  
2nd Vice-President: Rick Marion  
Treasurer: Greg Mockler  
Secretary: Steven Pellarin  
National Representative: Mike Mastronardi

### WINNIPEG CENTRE

PO Box 2694  
Winnipeg MB R3C 4B3  
[www.winnipeg.rasc.ca](http://www.winnipeg.rasc.ca)  
[ras1@winnipeg.rasc.ca](mailto:ras1@winnipeg.rasc.ca)

Past President: Kris Keller  
President: Andrea Misner  
Vice-President: Brian Renald  
Treasurer: Jay Anderson  
Secretary: Stan Runge  
National Representative: Jennifer West  
Councillors: Brian Stach  
Paul Trudel  
Kris Keller  
Brenden Petracek  
Silvia Graca

## 2015 AWARD WINNERS

<b>Ken Chilton Prize</b>	not awarded	<b>Chant Medal</b>	<b>not awarded</b>
<b>Service Award</b>	David M.F Chapman (Halifax) Colin Haig (Hamilton) Chris Malicki (Mississauga)	<b>The Plaskett Medal</b>	Dr. Anne Archibald
<b>Fellowship Award</b>	Robert Dick (Ottawa) Dave Lane (Halifax) Dr. John Percy (Toronto) Mary Lou Whitehorne (Halifax)	<b>Simon Newcomb Award</b>	not awarded
		<b>Qilak Award</b>	<b>DDO Volunteers (Toronto)</b>

## 2014 CERTIFICATES

### EXPLORE THE UNIVERSE

Chantal Allard (Trois Rivières)  
Christian F Campoverde (Mississauga)  
Maggie Fei (Toronto)  
Corey LaBerge (Winnipeg)  
Paul Mortfield (Toronto)

### MESSIER OBJECTS

Diane Bell (Victoria)  
Melody Hamilton (Halifax)

# PAST AWARD WINNERS

Below is a list of former winners of the Chant Medal, Ken Chilton Prize, Plaskett Medal, Service Award, and Simon Newcomb Award.

For names before 2000, please refer to "Looking Up—A History of the RASC" by Peter Broughton. [www.rasc.ca/publications/lookingup/index.shtml](http://www.rasc.ca/publications/lookingup/index.shtml)

## CHANT MEDAL

The Chant Medal of the Society was established in 1940 in appreciation of the great work of the late Professor C.A. Chant in furthering the interests of astronomy in Canada. The medal is awarded

not oftener than once a year to an amateur astronomer resident in Canada on the basis of the value of the work carried out in astronomy and closely allied fields of original investigation.

- 2001 Richard Huziak (Saskatoon)
- 2002 Dr. Roy Bishop (Halifax)
- 2006 Ed Majden (Victoria)
- 2009 Dr. Geoff Gaherty (Toronto)

## FELLOWSHIP AWARD

Developed jointly by the Awards and Nominating Committees, and approved by the RASC Board of Directors in November 2013, the award of Fellow of the RASC (FRASC) is created to acknowledge the work of long-serving members. It recognizes

those outstanding members who have made extraordinary contributions to the Society over the long term, much of which service has been rendered at the national level.

- 2014 Randy Attwood (Mississauga)  
Dr. Roy Bishop (Halifax)  
Peter Broughton (Toronto)  
Dr. James Hesser (Victoria)

## KEN CHILTON PRIZE

The Chilton Prize was established in 1977 by the National Council of the Society in remembrance of Ken E. Chilton, an active member of the Hamilton Centre. The prize is awarded annually to an amateur astronomer resident in Canada in recognition of a significant piece of astronomical work carried out or published recently.

- 2001 Michael Boschat (Halifax)
- 2002 Vance Petriew (Regina)
- 2003 Doug George (Ottawa)  
Peter Ceravolo (Ottawa)  
Paul Boltwood (Ottawa)  
Jon Buchanan (Ottawa)  
Glenn LeDrew (Ottawa)
- 2005 Attila Danko (Ottawa)

- 2008 Eric Briggs (Toronto)  
Debra Ceravolo (Ottawa)  
Peter Ceravolo (Ottawa)  
Lou Cox (Ottawa)  
Steve Gauthier (London)  
Doug George (Ottawa)  
Paul Gray (New Brunswick)  
Walter MacDonald (Kingston)  
Jack Newton (Victoria)  
Ajai Sehgal (Ottawa)  
Jennifer Tigner (Victoria)  
Dave Toth (London)
- 2009 Brian Battersby (Prince George)
- 2010 Brian Battersby (Prince George)  
Lise Charlebois (Unattached)

- Ted Dunphy (New Brunswick)  
Paul Gray (New Brunswick)  
Kim Hay (Kingston)  
Marc Keelan-Bishop (Belleville)  
Don Kelly (New Brunswick)  
Rémi Lacasse (Unattached)  
Dave Lane (Halifax)  
Damien Lemay (Québec)  
Ron Macnaughton (Toronto)  
Chris Weadick (New Brunswick)  
Jennifer West (Winnipeg)
- 2012 Holly Ayles (New Brunswick)
- 2013 Kathryn Gray (Halifax)  
Nathan Gray (Halifax)

## PLASKETT MEDAL

The Royal Astronomical Society of Canada and the Canadian Astronomical Society together present an award in recognition of the pivotal role played by John Stanley Plaskett in the establishment of astrophysical research in Canada. The award is made to the graduate from a Canadian university who is judged to have submitted the most outstanding doctoral thesis in astronomy and astrophysics in the preceding two calendar years. An award need not be made every year.

- 2000 Dr. Alexei Razoumov (British Columbia)
- 2001 Dr. Peter Brown (Western)
- 2002 Dr. Edward W. Thommes (Queen's)
- 2003 Dr. Tracy Webb (Toronto)
- 2004 Dr. Jo-Anne C. Brown (Toronto)
- 2005 Dr. Christian Marois (Montréal)
- 2006 Dr. Lauren A. MacArthur (British Columbia)
- 2007 Dr. Frédéric Grandmont (Université Laval)
- 2008 Dr. Adam Muzzin (University of Toronto)

- 2009 Dr. Catherine Lovekin (Saint Mary's University)
- 2010 Dr. Helen Kirk (University of Victoria)
- 2011 Dr. Kaitlin Kratter (University of Toronto)
- 2012 Dr. Pier-Emmanuel Tremblay (Université de Montréal)
- 2013 Dr. Yasuhiro Hasegawa (McMaster University)
- 2014 Dr. Andrew Pon (University of Victoria)

## PRESIDENT'S AWARD

*Established in 2008, this award is to be given at the President's discretion, usually once a year, to a member who has made an important contribution to the Society, and to be presented by the President either at the General Assembly or during a visit by the President to the home Centre of the recipient.*

- 2010 Sid Sidhu (Victoria);
- 2011 Mayer Tchelebon (Toronto)
- 2012 Randall Rosenfeld (Unattached)
- 2013 Dave Lane (Halifax)
- 2014 Robert Dick (Ottawa)

## QILAK AWARD/LE PRIX QILAK

*This award is jointly administered by CASCA, the FAAQ, and the RASC, instituted to acknowledge excellence in astronomy outreach and communication. One prize can be awarded annually in each of the three founding societies.*

- 2012 Colleen O'Hare (Okanagan)
- 2013 Robert Duff (London)
- 2014 Dr. Howard Trotter (Vancouver)

## SERVICE AWARD

*The Service Award was established in 1959 and takes the form of a bronze medal presented to members who have performed outstanding service to a Centre or to the National Society. Below is a list of recent winners of the Service Award.*

- 2000 Phil Johnson (Calgary)
- 2001 John Rousom (London)  
David G. Turner (Halifax)
- 2002 (Not awarded)
- 2003 David McCarter (London)
- 2004 David Clark (London)  
Jim Failes (Okanagan)  
Art Fraser (Ottawa)  
Guy Nason (Toronto)  
Stan Runge (Winnipeg)
- 2005 J. Randy Attwood (Toronto)  
Dr. Robert Garrison (Toronto)

- 2006 Ted Bronson (Thunder Bay)  
Mark Kaye (Hamilton)  
Kevin Kell (Kingston)
- 2007 Dr. Rajiv Gupta (Vancouver)  
Bruce McCurdy (Edmonton)
- 2008 Dennis Grey (Toronto)  
Leslie Harvey (Toronto)  
Tony Horvatin (Toronto)
- 2009 Clint Shannon (Halifax)  
Robert Duff (London)  
Kim Hay (Kingston)  
Richard Huziak (Saskatoon)  
Walter MacDonald (Kingston)  
Al Seaman (Ottawa)  
Patrice Scattolin (C.F. de Montréal)  
Alan Whitman (Okanagan)
- 2010 Guy Mackie (Okanagan)  
Bryan Kelso (Okanagan)

- Jim Tisdale (Okanagan)  
Barry Matthews (Ottawa)  
Curt Nason (New Brunswick)
- 2011 Robert Dick (Ottawa)
- 2012 Roland Dechesne (Calgary)  
James Edgar (Regina)  
Fred Smith (St. John's)
- 2013 Larry McNish (Calgary)  
Dietmar Kupke (Toronto)  
Brian McCullough (Ottawa)
- 2014 Jay Anderson (Winnipeg)  
Dave Gamble (Okanagan)  
Susan Gagnon (Kingston)  
Dr. James Hesser (Victoria)  
Mary Lou Whitehorne (Halifax)

## SIMON NEWCOMB AWARD

*This award was instituted in 1978 to recognize literary ability among non-professional members of the Society.*

- 1994 Michael S.F. Watson (Unattached, Canada)

- 1999 Terence Dickinson (Toronto)
- 2001 Dan Falk (Toronto)
- 2002 Dr. David Levy (Kingston)
- 2003 Alister Ling (Edmonton)
- 2004 Mary Lou Whitehorne (Halifax)
- 2006 Dr. Warren Finlay (Edmonton)
- 2007 Alan Dyer (Unattached, Canada)
- 2008 Gary Seronik (Victoria)
- 2009 James Edgar (Regina)
- 2011 Jay Anderson (Winnipeg)
- 2012 Randall Rosenfeld (Unattached)
- 2013 Alan Whitman (Okanagan)

## HONORARY MEMBERS OF THE RASC

Dr. Oscar Álvarez-Pomares (Cuba)	Prof. Andrew Fraknoi (United States)	Dr. P.J.E. (Jim) Peebles (United States)
Dr. William Bottke (United States)	Dr. Owen Gingerich (United States)	Dr. Sara Seager (Canada)
Dr. David L. Crawford (United States)	Dr. Stephen W. Hawking (United Kingdom)	Dr. William Sheehan (United States)
Rev. Robert Evans (Australia)	Dr. Jean Meeus (Belgium)	Dr. Carolyn Shoemaker (United States)
Dra. Julieta Fierro (Mexico)	Dr. Jay Pasachoff (United States)	Dr. R. Brent Tully (United States)

## PAST ELECTED OFFICERS OF THE RASC

*Below are lists of former Honorary Presidents, Presidents, Secretaries, and Treasurers of the RASC. For names before 1990, please refer to "Looking Up—A History of the RASC" by Peter Broughton.*

### Honorary Presidents

1997-2001	Jack Locke
2001-2005	Roy Bishop
2005-2010	Robert Garrison
2010-2013	Dr. James Hesser
2013-	Dr. John Percy

### Presidents

1998-2000	Randy Attwood
2000-2002	Dr. Robert Garrison
2002-2004	Dr. Rajiv Gupta
2004-2006	Peter Jedicke
2006-2008	Scott Young
2008-2010	Dave Lane
2010-2012	Mary Lou Whitehorne
2012-2014	Glenn Hawley
2014-	James Edgar

### Secretaries

1999-2005	Kim Hay
2005-2007	Stan Runge
2007-2014	James Edgar
2014-	Dr. Karen Finstad

### Treasurers

1998-2004	Michael Watson
2004-2006	David Clark
2006-2007	Alan Whitman
2007-2012	Mayer Tchelebon
2012-	Denis Grey

## GENERAL ASSEMBLIES—2001 TO 2017

*The following Centres hosted the General Assembly from 2001 to 2015:*

2001	London
2002	Montréal
2003	Vancouver
2004	St. John's
2005	Okanagan
2006	Ottawa
2007	Calgary

2008	Toronto, Mississauga and Hamilton
2009	Saskatoon
2010	New Brunswick
2011	Winnipeg
2012	Edmonton
2013	Thunder Bay
2014	Victoria
2015	Halifax

*The following Centres will host the General Assembly in the future:*

2016	London
2017	Vancouver