



Annual Report 1996

The Royal Astronomical Society of Canada



The Royal Astronomical Society of Canada – 1997

| | | |
|-----------------------|---------------------|---------------------------------|
| Honorary President | Dr. Alan Batten | batten@dao.nrc.ca |
| President | Doug George | dgeorge@cyberus.ca |
| First Vice President | J. Randy Attwood | attwood@istar.ca |
| Second Vice President | Dr. Robert Garrison | garrison@astro.utoronto.ca |
| National Secretary | Raymond Auclair | auclair@cyberus.ca |
| Treasurer | Dr. Rajiv Gupta | gupta@math.ubc.ca |
| Recorder | Peter Jedicke | jedickep@claven.fanshawec.on.ca |
| Past Presidents | Dr. Doug Hube | dhube@phys.ualberta.ca |
| | Peter Broughton | ac372@freenet.toronto.on.ca |

Executive Secretary

Bonnie Bird
136 Dupont St. Toronto Ontario M5R 1V2
Phone: 416-924-7973 Fax: 416-924-2911
Email: rasc@istar.ca
Bonnie is in the office Monday, Tuesday and Thursday

| | | |
|----------------------|------------------|-------------------------------|
| JOURNAL Editor | Dr. David Turner | turner@hercules.stmarys.ca |
| Associate Editor | Pat Kelly | pkelly@tuns.ca |
| Observer's Handbook | Dr. Roy Bishop | roy.bishop@acadiau.ca |
| Beginner's Observing | | |
| Guide Editor | Leo Enright | enrightl@admin.fcbe.edu.on.ca |
| Librarian | Walter MacDonald | walter@unicom.org |

RASC Web Site: <http://www.rasc.ca>

1997 Committees

| | | |
|----------------------|------------------|-------------------------|
| Astronomy Day | | |
| Coordinating: | Scott Young | syoung@net1plus.com |
| Awards: | Dr. Doug Hube | dhube@phys.ualberta.ca |
| Computer Use: | David Lane | dlane@ap.stmarys.ca |
| Constitution: | Michael Watson | MSFWatson@SmithLyons.ca |
| Executive: | Doug George | dgeorge@cyberus.ca |
| Finance: | Dr. Rajiv Gupta | gupta@math.ubc.ca |
| Historical: | Frederick Smith | |
| Light Pollution: | Bill Broderick | |
| Long Range Planning: | J. Randy Attwood | attwood@istar.ca |
| Membership and | | |
| Promotion: | Don Hladiuk | hladiukd@cadvision.com |
| Nominating: | Dr. Doug Hube | dhube@phys.ualberta.ca |
| Property: | Robert May | 416-265-4037 |
| Publications: | J. Randy Attwood | attwood@istar.ca |

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Cover Photo: A highlight of 1996 was the apparition of Comet Hyakutake. This photograph taken by Paul Gray of the Halifax Centre shows the comet on March 24, 1996. Using TriX 400 ASA black and white film, he took a 10 minute exposure with a 50 mm lens at f2.8 The photograph was printed and rephotographed onto Tech Pan 2415 film to increase contrast.

Report of the President

This past year has been one of remarkable change in the society. These changes have touched on all aspects of our operations: the publications we produce, the way things are done, and the people who do the work. Some of these changes were unexpected and unfortunate; most were very positive and important to the long-term health of the society.

At the General Assembly in Edmonton, Rosemary Freeman, our long-standing and dedicated Executive Secretary, took her retirement from the society. Rosemary had almost single-handedly run the RASC National Office for almost twenty-five years. It has taken much work to retain the important "institutional knowledge" she has accumulated over the years. I would like to personally thank Rosemary for her irreplaceable help in the transition at National Office, and we all wish her the best in her travels.

We were very pleased that our new Executive Secretary, Bonnie Bird, was able to take over the reigns at National Office. Bonnie has coped with many different challenges: coming up to speed on our operations, handling the problems encountered in changing our membership management system, all the while dealing with the dozens of inquiries that come into National Office every week. She has done a simply amazing job under such difficult circumstances. We are hopeful that her job will become easier once the new membership management services are operating smoothly.

The *Journal* underwent a major change at the end of 1996 when we adopted a new, larger format. The combination of peer-reviewed papers and popular articles under the same roof underscores the long tradition of cooperation between amateur and professional astronomers in the RASC. I would like to encourage all members of the society to write articles for the *Journal*. Members across the RASC are doing fascinating things. We would all benefit from learning more from each other.

In addition to the new-look *Journal*, we also bundled *SkyNews/Ciel Info* with RASC membership for a trial year. *SkyNews* is an excellent publication targeted at the novice amateur astronomer; something that should be especially attractive to potential new members. This arrangement has also allowed the society to place regular advertisements in the magazine. I am hopeful that we will be able to continue bundling *SkyNews*, but given the cost we need more feedback from the membership. Please let us know whether you appreciate receiving *SkyNews* with your membership, and whether you think it helps increase membership in the society.

Although the changes to the *Journal* were widely welcomed throughout the Society, the debate over the proposed renaming of the *Journal* proved to be divisive. This was unfortunate since it took away from the excellent work being done by the Publications Committee, and even more unfortunate in that it led to the resignation of our National

Secretary, Randall Brooks. Randall's contributions to the Society over the years were substantial and he is dearly missed. The lesson from all this? Perhaps that the democratic process does not always operate smoothly, and that it is most important that all members make their voices heard on important issues.

I would like to close on an astronomical note (of all things!). The year of 1996 will long be remembered for the spectacular appear-

ance of Comet Hyakutake. Of course, we will be debating for years whether Hyakutake or Hale-Bopp takes the prize as the comet of the decade! Rare spectacles like the apparition of a new comet, a cosmic collision, or an eclipse remind us all of how remarkable an avocation astronomy is: one of the few areas of human endeavour that allow us to appreciate both science and art in a single glance.

Doug George, President

Membership Information for 1996

| | 1994 | 1995 | 1996 |
|--------------------|-------------|-------------|-------------|
| Calgary | 204 | 215 | 246 |
| Edmonton | 151 | 143 | 138 |
| Halifax | 131 | 123 | 127 |
| Hamilton | 66 | 48 | 50 |
| Kingston | 69 | 63 | 142 |
| Kitchener-Waterloo | 25 | 29 | 32 |
| London | 35 | 44 | 45 |
| C.F. de Montreal | 12 | 7 | 11 |
| Montreal | 109 | 109 | 103 |
| Niagara | 50 | 50 | 48 |
| Okanagan | | | 16 |
| Ottawa | 228 | 223 | 216 |
| Quebec | 44 | 50 | 47 |
| Regina | 19 | 15 | 23 |
| St. John's | 36 | 39 | 35 |
| Sarnia | 10 | 14 | 13 |
| Saskatoon | 52 | 58 | 54 |
| Thunder Bay | 23 | 28 | 20 |
| Toronto | 805 | 727 | 682 |
| Vancouver | 227 | 199 | 218 |
| Victoria | 113 | 125 | 100 |
| Windsor | 48 | 49 | 52 |
| Winnipeg | 59 | 69 | 64 |
| Unattached | 512 | 471 | 365 |
| Honorary | 15 | 15 | 15 |
| Total | 3043 | 2913 | 2862 |

Deceased Members in 1996

Prof. Victor Ambartsumia, Honourary Member; Mrs. Mary W. Grey, Ottawa; Mr. L. T. Johnson, USA; Mr. J. Letourneau, Montreal; Miss M.S. Burland, Ottawa; Mr. Art Holmes, Vancouver; Mr. Richard W. Tanner, Ottawa; Mr. James C. Newton, Canadian Unattached; Mr. C. G. Clark, Toronto; Mr. Michael Hrabarchuk, Canadian Unattached; Mr. Peter Kuzel, Okanagan; Mrs. Marie Litchinsky, Calgary; Mr. Russell Lobzun, Windsor; Mr. G. L. Reed, Calgary

Treasurer's Report

The 1996 audited financial statements, reproduced in the following pages, show that the Society continues to be on firm financial footing. The net worth of the Society, as measured by its equity and special funds, increased by about 10% (\$34,000) in 1996. Over the past 11 years, the Society's net worth has increased at a compound average annual rate of over 10%. During this same period, the average annual rate of inflation has been about 3%, with the result that the inflation-adjusted worth of the Society is now over twice its level of 1985.

The Society's publications cost, in inflation-adjusted dollars, close to 40% less to print and distribute in 1995 and 1996 than they did in 1985. This is a major reason the Society has operated well in the black in recent years despite some large, unusual expenses associated with the restructuring currently occurring within the Society. These expenses include the well-deserved retirement allowance of \$24,000 in 1996 to the former Executive Secretary Rosemary Freeman and costs associated to the transition to the new *Journal*.

In 1997, the new *Journal* is expected to cost more than the former *Journal/Bulletin* but generate less revenue, so there is the possibility of a small deficit. However, *Journal* expenses should become lower in 1998 as the new publication matures and requires less design work, and it should generate more subscription and advertising revenue as it finds its niche.

A quick glance at the Society's financial statements shows how important revenue from sales of the *Observer's Handbook* is. Over the last two years, a net profit of over \$120,000 has been realized. Thanks are due to editor Roy Bishop for his continued effort in producing this ever-popular and well-respected publication.

The Society's membership has regrettably been in a slow decline lately, down from 3600 in 1989 to approximately 2850 in 1996. Improvements to the Society's publications and the increased exposure generated by its ads in *SkyNews* should reverse this trend and lead to higher membership fee revenue.

Anticipated future increases in membership and expected reductions in net publication costs, together with the continuing popularity of the *Observer's Handbook*, mean that the long-term financial outlook for the Society is good.

Rajiv Gupta, National Treasurer

1996 Audited Financial Statements

Tinkham & Associates

CHARTERED ACCOUNTANTS

C.J. Tinkham, C.A., C.M.A.
D.C. Tinkham, B. COMM., C.M.A., F.C.I.A.
P.J. Breckleby, B.B.A., C.A.

2842 Bloor Street West, Suite 305
Toronto, Ontario, Canada M8X 1B1
Telephone (416) 233-2139
Facsimile (416) 233-1788

AUDITORS' REPORT

To the Members
of
THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA

We have audited the balance sheet of The Royal Astronomical Society of Canada as at December 31, 1996 and the statements of revenue and expense, and equity for the year then ended. These financial statements are the responsibility of the company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Society as at December 31, 1996 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.

TORONTO, Ontario
March 4, 1997

Tinkham & Associates
CHARTERED ACCOUNTANTS

**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
BALANCE SHEET
AS AT DECEMBER 31, 1996**

ASSETS

| | 1996 | 1995 |
|---|-------------------|-------------------|
| CURRENT | | |
| Cash and short term investments | \$ 108,379 | \$ 141,240 |
| Accounts receivable | 81,131 | 19,531 |
| Prepaid expenses | 2,142 | 2,097 |
| Accrued interest receivable | <u>9,900</u> | <u>8,603</u> |
| | <u>201,552</u> | <u>171,471</u> |
| SPECIAL PURPOSE FUNDS (Schedule A) | | |
| Cash | 7,058 | 23,070 |
| Accrued Interest | 7,014 | 3,781 |
| Guaranteed investment certificate | <u>258,000</u> | <u>238,000</u> |
| | <u>272,072</u> | <u>264,851</u> |
| CAPITAL ASSETS | | |
| Office building, furniture, equipment, library (nominal value) | <u>1</u> | <u>1</u> |
| | <u>\$ 473,625</u> | <u>\$ 436,323</u> |

LIABILITIES

| | | |
|--|----------------|----------------|
| CURRENT | | |
| Payables and accrued charges | \$ 19,680 | \$ 24,632 |
| Deferred revenue | | |
| Membership fees for ensuing year | 50,157 | 28,424 |
| Journal subscriptions | 8,639 | 21,465 |
| Unamortized life membership fees (Note 1) | <u>31,842</u> | <u>32,297</u> |
| | <u>110,318</u> | <u>106,818</u> |
| SPECIAL PURPOSE FUNDS (Schedule A) | <u>272,072</u> | <u>264,851</u> |

EQUITY

| | | |
|---------------|-------------------|-------------------|
| EQUITY | <u>91,235</u> | <u>64,654</u> |
| | <u>\$ 473,625</u> | <u>\$ 436,323</u> |

On behalf of the Council of the Society

David Brown President
Robin Dept Treasurer

Accounting principles - Note 1

Tinkham & Associates

**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
STATEMENT OF REVENUE AND EXPENDITURE AND EQUITY
FOR THE YEAR ENDED DECEMBER 31, 1996**

| | 1996 | 1995 |
|---|------------------|------------------|
| REVENUES | | |
| Membership fees | | |
| R. A. S. C. Centres | \$ 47,656 | \$ 47,438 |
| Individual members | 13,089 | 18,115 |
| Life membership: annual appropriation | <u>1,676</u> | <u>1,655</u> |
| | 62,421 | 67,208 |
| Grants and Donations | | |
| Government of Canada-annual grant | - | 3,000 |
| Miscellaneous donations | <u>79</u> | <u>767</u> |
| | 79 | 3,767 |
| Publication revenue | | |
| R. A. S. C. Journal | 34,070 | 37,873 |
| Observer's Handbook | 87,486 | 82,299 |
| Beginner Observer's Guide | 9,425 | - |
| Observer's Calendar | <u>10,213</u> | <u>9,758</u> |
| | 141,194 | 129,930 |
| Miscellaneous income | | |
| Interest on investment | 22,727 | 21,235 |
| Rent | 13,535 | 13,535 |
| Other income | <u>838</u> | <u>1,538</u> |
| | 37,100 | 36,308 |
| | <u>240,794</u> | <u>237,213</u> |
| EXPENDITURES | | |
| Publication costs | | |
| R. A. S. C. Journals | | |
| Printing of Journal | 31,074 | 27,853 |
| Printing of Bulletin | 15,292 | 14,887 |
| Publication revitalisation | 5,882 | 10,167 |
| Distribution costs | 9,892 | 11,736 |
| Observer's Handbook | | |
| Printing | 16,731 | 21,049 |
| Distribution costs | 4,141 | 5,891 |
| Observer's Calendar | 7,708 | 8,303 |
| Beginner Observer's Guide | 12,060 | - |
| Operating costs | | |
| Office salaries and employee benefits | 58,971 | 44,484 |
| Postage and shipping | 6,350 | 6,892 |
| Advertising | 929 | 3,377 |
| General and office | 10,306 | 6,516 |
| Grants | 2,620 | - |
| Life membership allotment to Centres | (187) | 3,902 |
| Light pollution | 1,635 | 381 |
| General assembly and travel | 11,131 | 9,297 |
| Professional fees | 5,925 | 5,350 |
| Insurance | 3,740 | 3,665 |
| Provision (recovery) for bad debts | 1 | (225) |
| Building | <u>6,509</u> | <u>6,954</u> |
| | 210,710 | 190,479 |
| EXCESS OF REVENUES OVER EXPENDITURES | 30,084 | 46,734 |
| EQUITY, January 1 | 64,654 | 95,104 |
| Less: Transfer to Endowment Fund | (3,503) | (77,184) |
| EQUITY, December 31 | <u>\$ 91,235</u> | <u>\$ 64,654</u> |

Tinkham & Associates

**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 1996**

1 ACCOUNTING POLICIES

(a) Membership fees:

Members' fees are recognized as revenue in the related membership year. Accordingly, fees received at the end of the year for the ensuing year are recorded as deferred revenue. Life membership fees are credited to deferred revenue when received. Five percent of the life membership fund is transferred annually to membership fees revenue.

| | 1996 | 1995 |
|---|-------------------------|-------------------------|
| BALANCE, January 1 | \$ 32,297 | \$ 32,692 |
| Add: Life membership fees received in the year | <u>1,221</u> 33,518 | <u>1,260</u> 33,952 |
| Deduct: Amortization | <u>1,676</u> | <u>1,655</u> |
| BALANCE, December 31 | \$ <u>31,842</u> | \$ <u>32,297</u> |

(b) Publications:

R.A.S.C. Journal subscription revenues are amortized into income over the subscription period.

(c) Investments:

Investments are stated at cost. Investment income is recorded on the accrual basis.

(d) Special purpose funds:

The special funds of the Society are classified in accordance with the objectives specified by the donors or in accordance with directives issued by Council. The income of the various funds is recorded on the accrual basis.

(e) Fixed assets:

The office furniture, equipment and the library of the Society are carried in the accounts at a nominal value. The cost of additions to and replacements of fixed assets are expensed as they are incurred.

2 ORGANIZATION

The Royal Astronomical Society of Canada is a Canadian corporation without share capital and a registered charitable organization, incorporated for the purpose of stimulating interest and promoting astronomy and related sciences.

Tinkham & Associates

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA
SCHEDULE A
COMPOSITION OF SPECIAL PURPOSE FUNDS
AS AT DECEMBER 31, 1996

| | P.M.MILLMAN ENDOWMENT FUND | RUTH NORTHCOTT FUND | 1996 TOTAL | 1995 TOTAL |
|---------------------------------|----------------------------------|---------------------------|-------------------|-------------------|
| Funds derived from | | | | |
| : donations | \$ 727 | \$ - | \$ 727 | \$ 1,528 |
| : interest on investments | - | 3,233 | 3,233 | 3,055 |
| : transfer from general account | - | - | - | 75,000 |
| : transferred from closed funds | - | - | - | 12,544 |
| : net publication revenue | - | - | - | 9,638 |
| : inflation adjustment | <u>3,503</u> | <u>-</u> | <u>3,503</u> | <u>2,184</u> |
| | <u>4,230</u> | <u>3,233</u> | <u>7,463</u> | <u>103,949</u> |
| Funds applied to | | | | |
| : lectures and grants | - | (242) | (242) | (647) |
| : transfers to Endowment Fund | <u>-</u> | <u>-</u> | <u>-</u> | <u>(12,544)</u> |
| | <u>-</u> | <u>(242)</u> | <u>(242)</u> | <u>(13,191)</u> |
| Net increase in funds | 4,230 | 2,991 | 7,221 | 90,758 |
| Funds, January 1 | <u>218,958</u> | <u>45,893</u> | <u>264,851</u> | <u>174,093</u> |
| Funds, December 31 | <u>\$ 223,188</u> | <u>\$ 48,884</u> | <u>\$ 272,072</u> | <u>\$ 264,851</u> |
| Funds, comprised of | | | | |
| : cash | \$ 4,188 | \$ 2,870 | \$ 7,058 | \$ 23,070 |
| : accrued interest | - | 7,014 | 7,014 | 3,781 |
| : term deposits | <u>219,000</u> | <u>39,000</u> | <u>258,000</u> | <u>238,000</u> |
| | <u>\$ 223,188</u> | <u>\$ 48,884</u> | <u>\$ 272,072</u> | <u>\$ 264,851</u> |

Tinkham & Associates

Annual Reports from the Twenty-Three Centres of the Royal Astronomical Society of Canada

Calgary Centre

The highlight of our Club's endeavours this year by far, was the reclamation of our dark site in Caroline, Alberta. An old oil lease located on the Eccles Ranch about an hour and a half from Calgary, this dark location is also the site of the popular annual Alberta Star Party.

In past years, we struggled against deep muddy ruts, wild weeds and large biting insects to enjoy clear dark skies at the ranch. During the early summer months, Chevron Resources dumped truckload after truckload of dirt and gravel; graded the area and made new roads into and around the site. They even planted some real grass that we hope to have to cut this coming year! A small army of volunteers contributed buckets of sweat and hours of labour, sinking piers, building biffies, and laying the foundations for not one but two domes that we hope to erect this year at the Eccles Dark Site. Thanks to Chevron Resources, Rick and Carol Weis, Kirby and Priscilla Eccles and many helpful members, we now have a dark site to rival the best in Canada.

New for this year was an Astrophotography class, hosted by

our resident expert John Mirtle (you might recognize his name if you buy the RASC calendar), and Carol Weis. As a result of this popular course, the Wilson Coulee Observatory now boasts a black and white developing lab.

As in past years, our Youth Group continues to grow - we now have 80 plus active young astronomers. This growth and popularity is entirely due to the continued efforts of Blair Colborne, who invests countless hours in our Centre's Youth. He even claims to enjoy it!

Bob Morgan continues to do a great job with the Telescope for Lend program. Our stable of scopes has grown from 1, at the program's inception, to 8 in the past year, with two additional scopes now in work. This is a popular way for our new and beginner members to try out different types of telescopes before investing in their own.

Our 237-STAR telephone line received approximately 1,200 calls requesting information about astronomical events, educational, and membership information. Our new President, Glenn Hawley, runs this line from his home and fields those calls on his own time.

The Calgary Centre and its members were well represented at the RASC General Assembly held in Edmonton this year. Four members presented three different seminars; Sid Lee received the National Award, and the Calgary Centre received (again) an award for the best display. We understand that Calgary was also well represented at the after hours parties on the fourth floor University residence.

The passing of Comet Hyakutake provided a highly visible platform for the Calgary Centre. The comet generated great excitement in Calgary, as it surely did across the country. Despite bitterly cold conditions, thousands of Calgarians turned out to view the comet from Fish Creek Park where shivering members nightly provided their telescopes and binoculars.

Despite our best hopes and preparations, our two major public viewing events, Zoonival and Saturn Night, were mostly clouded and snowed out. Faithful volunteer members were on hand nevertheless to host the public that did turn out.

Calgary Centre volunteers continue to provide tours for Cubs, Brownies, students, and other interested public at the Wilson Coulee Observatory just south of Calgary. Our Centre and the Calgary Board of Education also provide Introductory and Intermediate Astronomy Courses which are generally held at the Calgary Science Centre.

The 1998 Carribean Eclipse Tour is jointly hosted this time by the RASC Calgary Centre, the Calgary Science Centre, and the

Travel Exchange. Our Centre has hosted previous eclipse tours, but this one promises to be a highlight. Even bored spouses are perking up at the thought of yet another holiday spent chasing a shadow, but this time from onboard a cruise ship or a white sand beach.

The Calgary Centre chose to opt out of this first membership year under the University of Toronto Press; mainly because our large Youth membership has special needs that we address on our own, and wish to continue to do so. Hopefully, National will address our concerns in time for next year.

1996 was, in many respects, a banner year for the Calgary Centre. A beautiful new dark site, some prestigious awards, an exciting comet show, and as always, our valued volunteers all contributed to the growth and improvement of our great Centre. Come visit us on our new web home page. Clear skies to you all in 1997!

Susan F. Yeo, Secretary

Edmonton Centre

The Edmonton Centre had a good 1996. Not only did we have the honor of hosting the General Assembly, but with president ShirLee Adamson's leadership, a supportive Council and its active members, the Edmonton Centre continued in 1996 to have a vibrant and dynamic year. We have 146 members with typically 90+ members attending each meeting.

Meetings

The February feature speaker was Barry Arnold. He demonstrated his award winning 16" F/3.8 Newtonian telescope. In March, Harold Jacobsen spoke about his October 1995 trip to India and Nepal to view the solar eclipse. Buldar and Scuddy from the FBI, who wanted to check out reports of unusual sightings, interrupted the April (fools) meeting. Later we were treated to Comet Hyakutake photos by Roger Fell, Mike Noble, Frank Florian, Murray Paulson, Alister Ling, Dave Roles, and Ben Gendre. The May meeting featured Peter Brown, who talked about the St. Robert Meteorite that crashed on 14 July 1994. At the June meeting Denis Boucher demonstrated his 16" F/5 Newtonian telescope. For September's meeting, Bruce McCurdy took us on a tour of the constellations as he zoomed in from the entire Edmonton night sky to a selection of deep sky objects. The October meeting featured Alan Dyer, who presented a slide show featuring beautiful night landscapes and the space shuttle reentry. In November's meeting, Dr. Doug Hube presented a talk called: "Binary Stars: Celestial Pas de Deux with Fireworks"

December's meeting featured Russ Sampson's discourse on "Atmospheric Optics: The Rainbow".

The Edmonton Centre was host for the General Assembly in 1996. This event was a success with approximately 120 people attending from across Canada. The dull weather of the early Edmonton summer took a holiday just in time to provide superb weather for the

duration of the event. Among the many excellent presentations at the General Assembly, "Comet Hyakutake: The Motion Picture" by Peter Ceravolo and Doug George, plus the Helen Sawyer Hogg Lecture by Dr. Werner Israel, were both outstanding.

Observing

Volunteers from the Centre supported well-attended astronomy day activities coordinated with the arrival of Comet Hyakutake. About 12,000 visitors came to the Edmonton Centre volunteer-supported observation deck, at the Edmonton Space & Sciences Centre. Many members helped by bringing their telescopes to the observation deck to provide views of the comet for the public. Note that the astronomy day activity is just a part of a successful public education program, the observation deck is operated year round by dedicated Edmonton Centre volunteers.

Speaking of weather, 1996 must be nearly a record for bad weather for observing from Edmonton. If it wasn't cloudy, then we were illuminated by aurora. Most of our scheduled public observation nights at the dark site were wiped out this year.

Over 20 members attended Mt. Kobau Star Party from the Edmonton Centre. Those attending were rewarded with several fine nights of observing.

The Alberta Star Party was held at the newly landscaped site at the Eccles Ranch. Although the clouds teased us for much of the star party, the night skies cleared on the last night of the star party to provide some rewarding observations.

Awards

The President's Award for service to the Centre was presented to Howard Gibbins for his outstanding effort in coordinating the preparations for the General Assembly. The Astrophotography Award was presented to Murray Paulson for his excellent pictures of Comet Hyakutake. The George Moores Award for Excellence in Public Education was presented to George Maher, who has accumulated over 300 hours as an observation deck volunteer. Denis Boucher received the Angus Smith Award for Telescope Making for his 16" F/5 Dobsonian with an innovative truss design. The Observers Award went to Larry Wood for his long-term commitment to a huge variety of observing projects. Messier certificates were awarded to Sylvia Smith, Sherry MacLeod, Tony Gartner, Alfred Connelly, Rose-Marie Eklind and Roger Fell.

Terry Nonay, Secretary

Halifax Centre

"National Office East" (otherwise known as the Halifax Centre) had a very eventful 1996. Ushering in the new year was our new president, a member of the exclusive club RASD, Dave Chapman. I offer the following quote from another member of RASD, Dave Turner, on the changing flavour of Halifax Centre meetings with the advent of our new President. "Friday, January 20th, 1996. Day one of the Chapman administration, and most of us were clearly

feeling somewhat underdressed, not realizing that the fine print on our invitations contained the words 'semi-formal attire preferred,' or something to that effect. There were other indications that the new president intends to run the ship differently from his predecessor. At exactly 8:00 pm, he began his welcoming address, the first time that a Halifax Centre meeting has started on time in anyone's living memory." Thus began the new year.

In keeping with such sweeping change, we also had a couple of new faces added to the executive committee and we embarked on a couple of new challenges, like sidewalk astronomy and building an observatory. Both have been unqualified successes, I am proud to report. The sidewalk astronomy took place on the boardwalk along Halifax's historic waterfront, during a local jazz festival, and was very well received by hundreds of people. To quote our new president, "The waterfront event in July was especially interesting, as there was a wide variety of people of all ages who seemed surprised and delighted to find us set up on the boardwalk. It never ceases to amaze me the number of people who have never seen the Moon through a telescope. The best answer I found for 'Why are you doing this?' was 'We're astronomy buskers!' By the way, for the next time, I need to find out the Arabic word for 'Jupiter', and possibly the Chinese word as well."

Public observing events cohosted by the Centre and Saint Mary's University Astronomy Department in conjunction with the appear-

ance of Comet Hyakutake were also well attended, as were the two public observing sessions in Dollar Lake Provincial Park.

Nova East '96, our annual star party in Fundy National Park, New Brunswick, also saw some changes this year. We moved our base of operations to a new location in the park with much improved facilities and 1996 was, without a doubt, the best Nova East we've had in the event's 10 year history.

Halifax Centre has, for some time now, had a large representation on National Council, hence the moniker "National Office East," and this has meant that the Centre has had a great deal to do with the work on the new Society publication. 1997 will bring the fruits of these labours into the hands of all RASCers across the country. I think you will like what you see in "Fred" as it is sometimes called.

The biggest event for the Halifax Centre was not the fact of two naked eye comets in the space of one year, but rather the building of our own observatory in St. Croix. Although work started in 1995, 1996 saw the bulk of the work being done on the project. As the year drew to a close, the construction was completed except for a few small finishing details, and we have been enjoying the stars from our own little piece of heaven-on-earth ever since. Often the roll-off roof section is full of telescopes and mumbling, babbling stargazers trip over each other in the dark. Later in the night these self-same astronomers huddle around the kerosene heater

in the warm room and trade yarns of 16th mag galaxies spotted in 6 inch scopes.

The observatory project enlisted the efforts of many of our own members as well as that of the local beaver family on the lake, who obligingly cleaned up all the brush from our tree-felling and used it to build the biggest beaver lodge you've ever seen. In return for this favour, we relocated the snapping turtle eggs that mother turtle had impulsively laid in the pile of dirt from foundation excavations.

1996 Meetings

January - Doug Pitcairn, "Stellar Evolution for the Beginner"

February - Dr. Derek Richardson, "Shoemaker-Levy 9: A Cosmic Rubble Pile"

March - Dr. Gretchen Harris, "Is our Galaxy Older than the Universe - What's the Problem?"

April - Dr. Bob Hawkes, "Meteoroids from Outside the Solar System."

May - Member's Night, Comet Hyakutake

June - Dr. Larry Bogan, "Orbital Mechanics"

September - Dr. Roy Bishop, "Tides"

October- Ivan Smith, "When does Spring begin? Curiosities of the Calendar".

November - Members night and Annual Meeting. Included Dave Turner on Astronomy Jargon, Mary Lou Whitehorne with Astronomy Cartoons, Roy Bishop and others with Lunar and Solar Eclipse Slides, ECU by Dave Lane and Nova East Slides.

December - Beginner's Program: First Telescope, Easy Messier Objects, Astronomy Books, and how to dress for observing (warmth not fashion).

Mary Lou Whitehorn, Secretary

Hamilton Centre

The Hamilton Centre still exists. In the last year, it was touch and go as to whether the Centre would have to fold or not, but due to the diligence and hard work of a number of members, along with a couple of major public relation coups, the future is starting to look better.

Our first coup came as a result of the Centres newly completed CCD Cookbook camera. In February 1996, as Comet Hyakutake blossomed in the northern sky, Colin Haig and I answered a call from NASA that came over an Internet Mailing list. They were looking for people or institutions with CCD cameras to upload images of Hyakutake in real-time (or as close to it as possible) for publishing on the Internet via a NASA web site. The plan was to have the first virtual star party, and to monitor the comet for as long a period as possible over a 24 hour span. After informing NASA of our equipment and location, we were offered an invitation to join the project. They told us that we were the only amateurs in Canada that were involved. Although the camera was not quite ready at that point, the push was made to finish it, and gain a little experience with it prior to the big night. The big

coup came when, while attending a meeting of the Hamilton Amateur Astronomers, Colin and I told a reporter from the Hamilton Spectator about what the Hamilton Centre was doing. So, you tell a newspaper about a local group (always good) doing something on the Internet (even better) with NASA (Wow!) and you get front page coverage! The night of the virtual star party was mostly cloudy, but we did send NASA a nice shot of the inner coma, taken through the Centres C-8. We also got involved in a question and answer session NASA arranged where children in schools all over the world could ask questions and have them answered. A very successful event that resulted in a few members, a lot of exposure, a large amount of fun, and a tremendous amount of work. Definitely the single highest moment of the year for the Centre. We also had a very large crowd at the Observatory on the Saturday, that was nothing short of good-natured bedlam. The people in the Centre who dedicated vast quantities of time and effort in a very short period of time deserve a tremendous amount of credit for the great job that they did.

The second coup came when we invited CHCH-TV's roving weatherman Matt Hayes up to the observatory to do a remote during September's Lunar eclipse. A test showed that although we were on the fringe area for a live remote, the number of trees we have in the direction of the TV station did an effective job of stopping the signal. However, they were more than happy to do a promo piece the day before. I expected the

usual 15 or 20 second clip, but we had a full two minutes. I heard a couple of grumbles about the kidding around that Matt did at the end of the piece, but there were no grumbles about the number of requests we got for information about the Centre, or the new members who joined as a result.

Lately, it looks like the tree problem will soon be resolved, as another non-profit organization in Hamilton has need of a large number of trees to demonstrate ship-building techniques. We have trees in abundance, so much so that the ecliptic is visible only for a short time during the summer. We need to get rid of so many trees that it would have taken us quite a few years to do the job with chainsaws and elbow grease. It looks like this other organization will take the trees and chip the resulting brush in just a couple of days. Not all details have been hammered out as of yet, but it looks good.

We have put a number of cost cutting measures into place, and, while the Observatory is still our single biggest cost, we are now close to the break even point. A couple of more members will see us reach it. We are hopeful that the deal struck between the R.A.S.C and *SkyNews*, where the R.A.S.C. gets some advertising space, and the members get *SkyNews* will make membership in the R.A.S.C. a much better deal for beginning amateurs. The increased profile of the Society can only help us, too.

Finally, some late breaking news. This years President, Richard Petrone, had to resign due to educational commitments. The workload involved with his

thesis was considerably more than he reckoned with, and he could not devote the time and effort to the Hamilton Centre that he thought he should. As a result, I offered my services to the Board as President, as I had done for the two previous years, and the Board accepted. Richard remains as a very valued member of the Board.

List of Speakers: October - Annual Meeting

November - Dr. Paul Delaney, York University on the Search For New Planets.

December - Doug George was replaced by a members' night.

January - Dr. Doug Welch, McMaster University on Variable Star Observing.

February - Tim Griffis, McMaster University on The Role of CO2 in Planetary Atmospheres.

March - Bruce Collier, McMaster University on The Aurora and Airglow.

April - Members Night on Comet Hale-Bopp.

May - Dr. Dennis Shaw, McMaster University on The Martian Meteorite and Life on Mars (Past, Present and Future?)

June - Doug George - scheduled.

Roger Hill, President

Kingston Centre

1996 marked another successful year for the Kingston centre. The

year started with the election of a new executive.

President: Peggy Torney

Vice President: David Stokes

Treasurer: Kim Hay

Secretary: John Baker

Library: Kevin Kell

Peggy immediately went to work booking speakers and we were all treated to many fine presentations over the year. Among the many talks: Peggy Torney spoke about the "Book of Hours", Laura Gagne gave a SETI presentation, Steve Manders talked about solar activity and its relation to Earth's ice ages, Bill Broderick showed us his meteorite collection, Judith Irwin treated us an account of her efforts to track down reports of a bright local fireball, Kevin Kell briefly discussed the new Martian space probes, and even I spoke about rolling your own astronomical computer programs. This is just a sampling of the year's talks.

In addition to presentations, many other members contributed slides, photographs and impromptu talks. Leo Enright and Mark Kaye showed off their excellent photographs of Comet Hyukatake, Laura Gagne showed us her first astrophotographs: they were very good.

Finally, at the end of year, Kevin Kell was presented with an award for his outstanding contributions to the club during 1996. Kevin published the newsletter, managed the centre's web site, gave a talk, ran the library, looked after the centre telescope, and so on.

1996, the year of Hyukatake, was a good year for the Kingston

Centre. 1997, the year of Hale-Bopp, looks just as promising.

John D. Baker, Secretary

Kitchener-Waterloo Centre

1996 was a busy year for the Kitchener-Waterloo Centre of the Royal Astronomical Society of Canada.

The first meeting of the year 1996 was held in the science building at Wilfrid Laurier University. New president, John Beingsner, welcomed everyone to the meeting and spoke of his plans for the year. He presented a schedule of the year's meetings and featured speakers. The constellation talk that evening was given by Mark Robb on the constellation Camelopardalis. It's not one of the more famous constellations, but it still has its share of interesting features that an observer should check out. Jeff Collinson showed some slides and photos he had taken at some of last year's events such as StarFest, a star party at some place in Pennsylvania, and a meeting in North Bay. The shots included some excellent views of the moon and Northern Light photos. The feature talk for the evening was by Jeff Collinson on his trip to India. His trip, that previous fall, began with a stop over in England, where he visited the Greenwich Observatory. His trip then progressed to India where he traveled through New Delhi and Jaipur. The highlight was viewing the solar eclipse under clear skies and standing in the shadow of the moon.

The meeting for February saw the club enter the multimedia age

as president John Beingessner made use of a laptop computer and projector to run the meeting. It makes it easier for new members and visitors to get a feel for what will occur that evening. In the news and notes, Clark Macdonald told everyone about a new comet that had been discovered just a few weeks earlier. Comet Hyakutake would become a well known name within a few weeks. Jeff Collinson showed some more slides and photographs of his trip to India for the eclipse that he had borrowed from some of the other trip members. Darryl Archer gave the constellation talk on Canis Major making note of its enclosed nebulas and clusters. Darryl made use of the laptop and an astronomy software package called Guide V4.0 to assist in his talk. The main talk for the evening was given by John Beingessner entitled "Astronomy On The Internet". He began his talk by giving a brief explanation of what the Internet is, how it works, and how people can make use of it. Everyone present at the meeting then moved to one of the conference rooms in the science building which had access to the Internet through the university's computer network. We were shown a number of interesting sites on the World Wide Web, including a number of web sites set up by a number of RASC centres.

By the meeting in March, Comet Hyakutake was now a major story in many newspapers and news broadcasts. Most people had now seen it and had their own personal description of how it appeared. Oscar Cole Arnal thought he could already see a tail on the comet.

Jonathan Schmidt showed some slides he had taken on a trip to Mexico. He had visited an ancient observatory that was near the Chiapas Rebel region. Jeff Collinson gave the constellation talk on Draco. The main talk for the evening was given by Dr. Neil Hunt, who spoke on the Physics of Light. He covered three topics including "What is Light", "Light in the Universe", and "Light for Telescopes".

At the meeting in April, it was announced that the cost of electricity was going up for the observatory. A number of options were considered on how to cover this extra cost. It appears that by increasing the number of keyholders to observatory at \$30 dollars a shot will help the situation. It was announced that the KW centre would be setting up a Web homepage within the next month. This will be an excellent way to promote the club as well as to make announcements to club members who have access to the Internet. By the April meeting, everyone had a chance to see one of the brightest comets of the last 30 years. Comet Hyakutake was very impressive with its bright coma and long tail. Many members, including Bernd Mueller, Jim Graham and Peter Daniel, had photos of the comet to show. Jeff Collinson had a video of the eclipse last fall that someone on his trip had made. The main talk for the evening was by Clark Macdonald concerning "Astronomy in the Information Age". He showed that an amateur could obtain images from any part of the sky at almost any wavelength from the Internet. That per-

son could then use image processing software on his home computer to study parts of the sky that no one else may have studied before.

Over the summer months, many of our members attended various star parties across the province. Many made the trip to Mount Forest for Starfest and were present for some very interesting talks.

For the meeting on Tuesday, September 10, there were about 27 people present. This seems to be about the normal amount of people for our meetings which suggests that we have a good core group of members. President John Beingessner ran the meeting from his laptop. The first item on the agenda was about the hydro rate increase at the observatory. In business, it was announced that RASC would be renewing the memberships through the mail, and not through the individual clubs as previously done.

An update was given on the latest changes to the clubs web page.

A preview was given on the September 26 lunar eclipse.

Clark Macdonald gave a talk on the construction of his backyard observatory. It is of the roll-off roof design. He did most of the work himself, with a little help from his friends. The club web site has pictures and details of his project for those considering a similar undertaking.

Peter Daniel had some pictures from StarFest, the trip to the Dunlop Observatory, comet Hale-Bopp and various shots of the moon and Jupiter.

The main speaker for the evening was Rob Dony. He spoke

on CCD cameras and image processing.

Our meeting for October broke with a long tradition of Tuesday night meetings. It was held on Friday, October 18, to accommodate our guest speaker who traveled from Sudbury. There were 29 members present. In official business, a nomination committee was set up for the year-end elections. The committee consists of John Beingessner, Kevin Kibbe, and Mark Robb. They will be reporting back to the next meeting with a list of nominations.

Mention was made of some quite visible Saturn storms. They are present in the southern hemisphere of the planet and should be visible to anyone with a reasonable size scope. There is also a comet visible in the Big Dipper. Comet Tabur was reported at about magnitude 5.2.

A number of eclipse shots from the Internet were shown. This source of images was used as it was too cloudy on September 26 to see anything around here. Reports suggest it was a fairly bright eclipse. Saturn was nearby at the time and many of its moons were visible.

Darryl Archer gave a constellation talk on Taurus. He used the Guide astronomy program to take us on a tour of the constellation. He pointed out the various nearby clusters and NGC objects (1746, 1807, 1817). There are a number of variable stars as well (lambda, zeta, tauri)

The latest pictures from the Hubble Space Telescope were shown. An image of Io passing in front of Jupiter showed details that were as small as 100 miles across. NGC 604 in M33 revealed incredi-

ble details for a star birth area. When the telescope was pointed to a blank area of the sky, many young galaxies were revealed.

The main talk for the evening was by Alan Ward who spoke on optical surfaces. This was a very interesting talk on what happens when you have your telescope mirror or lens coated.

The November meeting had a rocky start when the projector for the laptop quit working and we were forced to return to more primitive presentation methods. It was decided to move our meetings from the second Tuesday of each month to the second Friday of each month. This will allow us to make use of the full multimedia facilities at the university that are usually booked during the week.

We covered many of the current sky events including Comets Tabur and Hale-Bopp. A number of members have seen Hale-Bopp and hopefully it will be as good as Hyakutake was earlier in the year.

Paul Bigalow gave a constellation talk on Pegasus. He gave a description of the constellation, where to find it and described many of the telescope objects that can be seen around it. We were told to watch for the Leonids which would peak on the 17th of month.

The main talk was a video Peter Daniel had prepared on comet Shoemaker-Levy.

The final meeting of the year was held in December. Neil Hunt gave the constellation talk on Ursa Major.

Peter Daniel showed some sketches he had made of a few lunar craters. It's hoped that they

can be scanned and put on the club web site. John Molson showed some images he downloaded off the Internet. These included pictures of storms on Mars, X-ray images of the sun, some cartwheel galaxies, and comet Hale-Bopp.

Clark MacDonald showed some video footage he had taken of the moon.

The main talk for the evening was by Ray Koenig on finding distances in space. He described the various methods for finding the distance to a star including using parallax, cepheid variables, main sequence fitting and super nova explosions. He described how the distance to the moon and sun were first calculated and how those distances were refined as technology advances occurred.

At the December meeting, the executive council for the 1997 year was voted in. It is as follows:

1997 Executive

Past President: Jeff Collinson,
63 Grandridge Crescent, Guelph,
Ont. N1H 8G2

President: John Beingessner,
1038 Hidden Valley Road,
Kitchener, Ont. N2G 3W5

1st Vice President: Clark
MacDonald, 313 Pastern Trail,
Waterloo, Ont.

2nd Vice President: Darryl Archer,
64 Tamvale Cresc., Kitchener,
Ont. N2E 3K7

Treasurer: Peter Daniel, 36 Talbot
Street Apt. 101, Kitchener, Ont.
N2M 2A9

Secretary: Jeff Brunton,
36 Robinson Rd, Brantford, Ont.
N3T 5L7

Editor: John Molson,
14 Thornbush Crescent,
Waterloo, Ont. N2T 1B2

National Rep: Ray Koenig,
49 Sorrel Place, Waterloo, N2L 4H2

Jeff Brunton, Secretary

London Centre

Over the past few years, the London Centre has enjoyed a slow increase in membership numbers, but more importantly, a marked increase in member enthusiasm and participation. This trend continued in 1996 with the active participation of members in areas of observing, telescope making, astrophotography, public star nights and displays. The "old guard" of the '60s and '70s, is now complemented by a strong group of enthusiastic new members.

Under the steady leadership of our President, John Rousom, the London Centre meets 11 times per year in the Common Room of the Masonville Mall in London. As it has for many years, the London Centre meetings are held on the third Friday of every month. Meetings are comprised of a variety of activities: guest speakers, club member demonstrations of equipment, slide presentations, and general discussions.

The membership of the London Centre continued its slow relentless increase in numbers, as we registered 45 regular, student and life members, up one from the previous year. The large number of truly active members, and the equally large number of non-

members who attend our meetings, tend to bring a level of activity to our monthly meetings which one could expect at a much larger club. It has been our direction to not aggressively pursue membership from non-members attending our meetings, in that we are financially sound as a club, and we feel that their money could just as well be spent on their first telescopes. The club remains in contact with these non-members, with lists maintained by both the treasurer and observer's group chair.

The London Centre is fortunate to have many enthusiastic members with a wide diversity of astronomical interests and skills. Dave McCarter, our observer extraordinaire and our observers group chair, has developed an avid core of observers, often augmented by us less avid viewers, prompted by Dave's frequent phone calls. Dave also doubles as Vice President and electronics guru. Dave is also instrumental in the London Centre's search for observatory and/or observing sites around the London area. Our second technoguru, Mark St. George, is an avid observer, but also contributes as Newsletter Editor, National Rep, and CCD group leader. The workshop (optical lab) of Mike Hanes, our ATM chair, seems always open for the use of the many members now grinding their first mirrors. Mike also has been instrumental in both the planning and legwork for our new observing site.

On the less technical side, but of no less importance to the club, many members contribute to the club in the area of public informa-

tion. Sue Vonesh, our club secretary in 1996, has completed the daunting task of transcribing into computer records all meeting minutes from the year of our club's inception in 1922 to the year 1976. Bob Duff, our club librarian, and Jennifer Foster, our newly appointed secretary, have worked tirelessly to build historical displays for mall presentations and our 1997, 75th anniversary celebration.

Although our membership continues to rise in numbers, we must occasionally mourn the movement of members from our club, to other clubs across the country. We wish Walter Essar much health and happiness out Saskatoon way. Saskatoon, treat him well. During the year, we lost one of our favourite new-found members to the west coast. Jan Wisniewski is a tireless astrophotographer who has blessed our club with both his incredible photographic work and his delightful character. Jan's work on Comet Hyakutake could be seen on our local media, on postcards, on the Internet, and (not often enough) projected on the wall of our meeting room, to the accompaniment of "ahs", cheers, applause, and in many cases, respectful silence. One of the BC clubs has hopefully picked up a gem here.

Over the years, London Centre members have always been found in classrooms, guide and scout halls, mall parking lots, and the like, fulfilling our mandate of bringing astronomy to the public. 1996 was by no means an exception. Many thanks to Dave McCarter, Mark St. George, Chris Fleming, Jennifer Foster, Tim Kunz, John Rousom, Dave Knopper, Bob Duff, Peter

Jedicke, Sue Vonesh, Dave Clark, and untold others for their presence and support with many public star nights, guide and scout presentations, and school presentations. Of particular note were the Hyakutake viewing nights at the Fingal Conservation Area, the mall displays set up for Science and Technology Week, and the large turn-out of members and public at the Kensal Park Public School star night. At the busiest Hyakutake night, London RASC members estimated up to 300 general public were present (police estimated the crowd at 150).

The London Centre continued its support of the University of Western Ontario's public star nights at the Cronyn Observatory. Each Saturday night of the summer, London Centre members set up telescopes outside the observatory to complement the slide and telescope demonstration provided by the university.

Attendance can rise to 300 on the busiest evenings near the end of the summer.

In early 1996, the London Centre, was pleased to announce the selection of Peter Jedicke as our Honourary President. Peter is a long standing member of the London Centre, a life member of the RASC, and an untiring worker at both the local and national levels. Peter currently serves as National Recorder on National Council. Asteroid 5899 bears the name Asteroid Jedicke in honour of the work performed by the Jedicke family members. Jumping into his new roll with fervour, Peter took on the duties of coordinating efforts for the joint National Meeting and the London Centre's 75th Anniversary celebra-

tion in the winter of 1997 (which, at the time of writing, we can report was a great success).

The London Centre was also pleased to learn that Dr. Amelia Wehlau was awarded a life membership to the RASC by the National Council. Dr. Wehlau is a member of the Department of Physics and Astronomy at the University of Western Ontario, and has long been a member of the London Centre. Dr. Wehlau is the wife of the late Dr. William Wehlau of UWO, the London's Centre previous Honorary President.

The annual London Centre banquet was held at the 7-Dwarf's Restaurant on May 25th, with 39 people in attendance. Doug Welch from McMaster University was the guest speaker presenting a talk on his research on MACHOS.

The London Centre was represented at the 1996 Edmonton General Assembly by Mike Flegel, and Peter and Dianne Jedicke. Unfortunately, our National Representative, Mark St. George was unable to attend. We would like to thank Mark for his combined efforts through the year as both National Rep and Newsletter Editor.

On the non-RASC side of things, 7 members of the London Centre rented an RV and attended the Texas Star Party. Reports on the activities (and behaviour) of Dave McCarter, Dave Knopper, Mark St. George, Jan Wisniewski, Mike Hanes, Derek Hitchens, and Peter Dawes, are typically only heard when one of the attendees lets down his guard. On a similar note, approximately 45 members and family of the London Centre attended Starfest in August, near

the town of Mt. Forest Ontario. It remains to be seen whether we will be invited back.

The 1996 year was a busy year for the London Centre. Through it all, one could see in the smiles of our veteran members (yes, Eric and Peter, you are veterans), that the London Centre was back, as active and as vital as it was in the good old days.

Dave Clark, Treasurer

Centre Francophone de Montreal

L'année 1996 fut une année de remise sur pied pour le Centre francophone de Montréal (CF). Le Centre est jumelé avec La société d'astronomie de Montréal (SAM) qui oeuvre dans le domaine de l'astronomie depuis 1968. Cette année, le nombre de membre SRAC est passé de 3 à 9 et nous prévoyons augmenter de beaucoup ce nombre en 1997. Le membership de la SAM est passé de 70 à 150. L'implication sérieuse du conseil d'administration, ainsi que la participation des directeurs bénévoles a grandement contribué à ce retour.

Le CF a son propre *Star party*, en place depuis plus de 15 ans. Le CAFTA (Concours annuel de fabricants de télescopes amateurs) permet aux amateurs de se rencontrer, d'échanger et de participer au concours où 6 prix sont remis (optique, mécanique, originalité, recherche, photo et jeunesse).

Le CF participe aussi a plusieurs activités d'astronomie au Québec en collaboration avec les

Clubs de la région. Plusieurs activités d'observation et des cours sont ainsi préparés en collaboration avec la **Société d'astronomie du Planétarium de Montréal** avec un franc succès.

Les premiers mardis de chaque mois sont toujours consacrés à une conférence d'un professionnel de l'astronomie, qui nous est référé par le Dr Pierre Bastien de l'Université de Montréal. Le dernier mardi de chaque mois est consacré à la COSAM (Comité des observateurs de la SAM) et on y prépare les observations du mois suivant.

Le CF possède un terrain d'observation à Saint-Valérien de Milton. Les membres du club vont régulièrement observer sur le site. Les photos prises par ces membres ornent d'ailleurs notre page WEB. Inutile de dire que la comète Hyakutaké, les Perséides et la comète Hale-Bopp ont été le sujet de maintes nuits d'observations...

Le CF reprend donc du poil de la bête, avec l'aide de la SAM et de ses bénévoles. Nous espérons vous y rencontrer un jour !

Patrice Gérin-Roze, secrétaire-trésorier

Montreal Centre

During the 1995-96 membership year, the Montreal Centre continued its practice of holding weekly meetings on Saturday nights from November to May 24, and on Wednesday nights through the summer and early fall.

Vice-president George Ashcroft organized an impressive program of speakers:

Thomas Eversberg, "Wolf-Rayet and Be Stars"

Sergey Marchenko, "Wind-Wind Collision Effects in Close Massive WR and O Binaries"

Pierre de Chastenay, "Recent Discoveries in the Solar System"

Roger Hajjar, "IR and Polarized Light in Astronomy"

Jean-Francois Bertrand, "The Shocking Behaviour of Massive Stars"

Glen Newton, "The Face of Venus, The World Wide Web and Astronomical Resources on the Internet"

Dr. Tony Moffat, "Twin Visits to the Gemini Sites"

Dr. David Levy, "Great Comets of the 1990's"

George Liv, "Contributions to the Light Pollution of Different Lamp Types"

Bert Widdop, "A Quarter Century of Solar Observing"

Gilbert St-Onge, "CCD's for Fun and Research"

The Townsend Lecture on April 2 at the Montreal Planetarium was given by Jack Newton of the Victoria Centre. Jack's lecture was on the four decades of astrophotography. Members of the many astronomy clubs in Montreal were thrilled to see Jack's images of nebulae, galaxies and Comet Hyakutake, and intrigued to learn the details of his pioneer work in CCD tricolour imaging.

On March 18, President Gary Angers arranged a tour of the Canadian Space Agency's impressive \$75 million facilities in St-

Hubert QC. Forty-four Centre members family and friends got to see the new generation "Canadarm", visit the control centre of the newly-launched RADARSAT and meet astronaut Steve MacLean, director general of the astronaut programme

Astronomy Day on April 20 was a scaled-down version of last year's shopping centre extravaganza. This year we had a display at Fairview Shopping Centre only. The day ended back at the Centre where space artist Jean-Pierre Norman brought to life the crash of Comet Shoemaker-Levy 9 into Jupiter.

The heavens kept us hopping during March and April. We had planned a public viewing night at the Centre on March 25 to see Comet Hyakutake, but after being swamped with over 300 telephone enquiries, we opened the dome for two other nights as well.

With the warmer weather, Director of Observations, Bill Strople, launched a new season of star parties. Observing sessions were held at Mount Sutton, Clarenceville, Lancaster and St-Norbert thanks to Bernie Schirdewahn, Anne Maskell, Robert Pepper and Gilles Perron. Special thanks to life member David Ross, who hosted several observing nights at his tree farm in Waterloo.

In August, former Director Marc Richard organized a second annual public viewing night at Copper Marsh south of Lancaster, Ontario, and then on September 28. The second lunar eclipse of the year brought more visitors to the clubhouse. After a lecture by President Gary Angers, the public

repaired to the field to see the moon rising in mid-eclipse.

Mark Bratton turned out ten excellent issues of *Skyward* (We don't know how he does it) Librarian Cathy Palmer-Lister put the entire contents of the library on computer. Phil Leboeuf assisted by Director Daniel Biron, created the Centre's own home page on the Internet, and Director Frank Tomaras added a large number of Centre talks to the video library.

Two members were recipients of awards: Bob Venor, long-time member and auditor was honored with an RASC Service award, and Jean-Pierre Normand received the AURORA award.

We are saddened to report the deaths of three long-time members: Dorothy Vane, William Cullinan and Jimmy Letourneau.

As the membership year ended, a Hale-Bopp committee was being formed under the leadership of Mark Bratton. It looks like the heavens have more in store.

Carole Talbot, Secretary

Niagara Centre

The Niagara Centre had a year full of activities and new initiatives.

There was an increase in public events offered, and the response received was gratifying. The monthly meetings of the centre were held in the LaMarsh Room of the main branch of the Niagara Falls Public Library on the fourth Thursday of the month, except for July, August, and December.

The following is a list of the speakers and topics for our general

meetings in 1996:

January 26, "Astrophotography Basics" by Paul Turcotte, Hamilton Centre

February 22, "Total Eclipse in India" by Jeff Collinson; reports, slides

March 28, "A Philosopher Looks at the Cosmos" by Dr. John Mayer, Brock University; reports; slides

April 25, "Life, Technology, and Brussels Sprout" by David Saunders; constellation slides by Ron Gasbarini

May 23, Members' Night: informal talks; reports; slides

June 27, Members' Night: slides of summer constellations by Rob Lenz and John Fishleigh

September 26, Reports; Public star night at Brock University to view a lunar eclipse

October 24, Members' Night: reports; past centre events, comet, and constellation slides by Hugh Maclean; Comet Hyakutake, slides by Rob Lenz and Marvin Scott

November 28, "Elementary Starship Propulsion" by David Saunders; Comet Hyakutake, constellation slides from B.C. by John Nemy; winter/spring constellations by John Fishleigh

As in past years, the Niagara Centre organized presentations for community and school groups. These events consisted of slide presentations and observing sessions. There were two most noteworthy public star nights. The first was a Comet Hyakutake observing session on March 23 at Guy Road Park in St. Catharines.

Approximately six hundred people attended that evening. The other event which drew a large crowd was a lunar eclipse star night on September 26 at Brock University, also in St. Catharines. Regular notices placed by John Fishleigh in the local media contributed to the large turnouts experienced at most of the year's public events.

As a benefit of membership, the centre makes available to all centre members a collection of loaner telescopes. These include a Celestron C-8, an 8-inch Odyssey, and an Edmund Astroscan. When not in use, these telescopes are brought to our public star nights. Thanks to Charles Fassel for maintaining this equipment.

The Annual Banquet of the centre was held on April 27 at the Skylon Tower in Niagara Falls, Ont. Our guest speaker was Terence Dickinson, who spoke about "A Galactic Odyssey". Terence's talk included recent images from the Hubble Space Telescope and astrophotography from Arizona and Chile. This event had a large turnout and included representatives from central and western New York state as well as RASC centres in southern Ontario.

Each summer, a group of Niagara Centre members travel to several Ontario observing conventions. In 1996, members attended Gateway to the Universe near North Bay, the ever popular Starfest near Mount Forest, and the Huronia Star Party near Alliston. These events feature very dark skies, talks, workshops, swap tables, and more.

The centre transferred its e-mail account from Brock University to

the Niagara Penninsula Free-Net (NPFN). The NPFN is an educational, non-profit organization which promotes technology and science. The centre has its own information area via the Science menu to promote the Society and our activities. Late in the year, a website was under preparation. It can now be found at the following URL:
<http://www.vaxxine.com/rascniag>.

The centre continued with its plans to build a new observatory. Meetings were held with the Niagara Penninsula Conservation Authority to plan for the construction of a public observatory at the Chippawa Creek Conservation Area, the centre's dark sky site. Late in the year, a lease agreement was drawn. Presently, a fund raising campaign is under way.

The centre hopes to have the observatory ready for use by early 1998. It will house the centre's 17.5-inch reflector, which was previously housed in the Al Kindy Memorial Observatory. At present, three concrete pads are located at the site on which the new observatory will be situated. One of the pads includes a pier on which the 17.5-inch telescope will be mounted. As part of our lease agreement, the centre will provide observing sessions for summer campers at the Chippawa Creek Conservation Area.

Overall, 1996 was a productive year for the Niagara Centre, thanks to the hard work and dedication of our members.

Ron Gasbarini, Secretary

Okanagan Centre

With a change in meeting location and date, as well as 2 newsletter editors, attendance at the scheduled meetings had fallen severely. In sharp contrast were 2 major public viewing events (Hyakuatake and Lunar Eclipse) both of which attracted from 150 to 250 visitors. These proved to be a good source of new members and general public awareness. A revamped newsletter and anticipation of the Hale-Bopp event have helped to spark interest in the closing part of the year with membership in excess of 30 once again. Member activities include the assembly of a CCD camera and simple radio telescope. Okanagan Center members currently meet on the 2nd Monday of every month.

Ron Scherer - Secretary

Ottawa Centre

The Ottawa Centre membership for 1996 was 221 members, consisting of 182 Regular, 6 Junior, and 33 Life Members. This number shows a decrease over 1995 membership by 9 people.

A Centre meeting was held in October, 1995 when speaker Dr. Rene Recine of the University of Montreal and the Canada-France-Hawaii Telescope gave a talk called "The Age Crisis of the Universe".

At our annual dinner meeting, held November 17, 1995, Dr. Don Morton was our guest speaker. His talk was on the Gemini 8-metre telescope.

Also at our dinner meeting, the Observer of the Year Award was

awarded to Rolf Meier for his observations of Mars at opposition, his ongoing involvement with group meteor observing, and his video record of the Sept. 16/95 lunar grazing occultation of a magnitude 7.5 star. Rolf also won the *AstroNotes* Article of the Year award for his article "Mars During the 1995 Opposition". Rolf, however, was unable to receive his awards that night because he was out observing the Leonid meteor shower. Germain Dionne received the *Armchair Astronomer's* Article of the Year for his article, "Belittling Keck" which appeared in the Dec. 1994 issue and was subsequently reprinted in the Feb. 1995 edition of the *RASC Bulletin*.

As usual, the monthly Observer's Group meetings were well attended all year with a wide variety of topics discussed and superb photos and videos shown.

While anxiously awaiting the arrival of comet Hale-Bopp in 1997, we were treated with the appearance of Comet Hyakutake. At the April Observer's Group meeting, we saw the photos taken by many observers of this comet. In particular, we were shown some magnificent photos taken by Peter Ceravolo in Arizona. Peter Ceravolo went to Arizona with Doug George in February, when Hyakutake was just "a tiny fuzball". Peter had the idea of making a time-lapse film showing the development of the comet's tail. Peter returned to Arizona in March with Glenn LeDrew to photograph the comet from a site in the mountains east of Tucson. After 12 nights taking four-minute

exposures, he came back with hundreds of pictures. With the assistance of Doug George and Jon Buchanan, the complete series of photos was combined into a video which was shown at the August Observer's Group meeting. A tremendous amount of effort went into the making of this video, the result of which captured a unique history of the evolution of a truly memorable comet and the delicate, continuously changing structure of its tail.

Paul Boltwood and Jon Buchanan co-operated in producing another video showing the evolution of the inner coma of this year's Great Comet, Hyakutake. Paul spent three nights capturing 25-sec exposures on his CCD camera, then selected and heavily processed 732 of these images which Jon transferred to videotape at 30 frames per second, a speed-up of 1000X.

The Light Pollution Abatement Committee was busy again this year making presentations to various city council's around the region in places like Kanata, Almonte, and Smith's Falls.

At this year's General Assembly, held in Edmonton, Ottawa Centre member Doug George became the National President of the RASC.

The Ottawa Centre picnic, held at the Meier's residence on Aug. 11, was a resounding success. A good time was had playing baseball, launching model rockets, and later on observing the Perseid meteor shower.

Unfortunately this year, five Ottawa Centre members passed away. Miriam Burland, Canada's

oldest professional astronomer, died this year at the age of 93. Ms. Burland had joined the RASC in 1929 and was president of the Ottawa Centre in the 1930's. Richard Tanner passed away in April at the age of 83. Richard Tanner won the RASC Gold Medal in 1947 and spent his career in positional astronomy and the time service at the Dominion Observatory. Former National President and Ottawa Centre member Mary Grey passed away this year after a long battle with cancer. Mary was instrumental in shaping the astronomy program at the National Museum of Science and Technology and in establishing the Helen Sawyer Hogg Observatory there. Stephen Odoysk died in August of this year at the age of 24. Stephen and his 10-inch Schmidt-Cassegrain telescope were regular visitors to the club's Indian River Observatory near Almonte. Earl Dudgeon, RASC member since 1948, also passed away this year. He was the Director of Mechanical Engineering laboratories at NRC. He helped with advice in the construction of the Ottawa Centre's 16" telescope.

Ottawa Centre Council held four meetings during 1996: Jan. 27, June 1, Sept. 20 (Quorum not achieved), and Oct. 4.

Jane Lund, Secretary

Centre de Québec

Si les années en astronomie devaient être comparées à des vins, 1996 serait sans l'ombre d'un doute un grand cru. L'année a

débuté tout d'abord avec une surprise de taille lorsque la comète Hyakutake est venue coiffer Hale-Bopp au fil d'arrivée. Hyakutake a donc marqué les trois premiers mois de l'année 1996 au Centre de Québec. C'est au marathon Messier organisé le 16 mars à l'observatoire Alphonse Tardif que plusieurs membres du Centre ont eu la chance d'observer pour la première fois une comète... Un moment qui restera sûrement gravé dans leur mémoire pour des années à venir. Le marathon s'est terminé aux environs de 3h30 avec un record de 82 objets observés aux jumelles 14x70.

Malgré un temps incertain, une soirée d'observation entièrement dédiée à la comète a aussi été organisée le 24 mars toujours à l'observatoire de St-Nérée. Tous ceux qui y ont eu la patience d'attendre le coucher de la Lune et un léger dégagement vont se rappeler du spectacle hallucinant offert par la comète dont la queue couvrait un angle de plus de 60 degrés. L'événement a aussi été marqué par un court reportage de la chaîne de télévision Quatre Saisons présente au début de l'événement.

Hyakutake a aussi presque réussi à voler la vedette à l'éclipse de Lune du 3 avril qui coïncidait avec l'une des dix (10) soirées conférences qui eurent lieu en 1996. L'horaire de cette soirée conférence a légèrement été adapté de façon à permettre l'observation de la Lune entre son lever et le début de la fin de la phase de la totalité. Encore une fois les médias furent de la partie et plusieurs membres du public ont assisté à cet événement.

La journée internationale de l'astronomie organisée au Domaine de Maizerêts le 20 avril a donné la chance à plusieurs membres de présenter leurs photographies de la comète et de l'éclipse.

Parmi les activités de l'été on peut noter la soirée d'observation des Perséides qui eut lieu le 11 août et l'épluchette de blé d'Inde du 17 organisée conjointement avec les membres du Centre d'observations astronomiques des monts Notre-Dame à St-Luc. Cette dernière activité est en voie de devenir une tradition et la soirée d'observation sous un ciel très noir qui la suit est certainement une des activités les plus appréciées des membres.

La rentrée de l'automne a été marquée par une courte cérémonie de remise de la médaille du « Service Award » à l'abbé Alphonse Tardif pour souligner son implication dans le développement et l'enseignement de l'astronomie.

Une soirée d'observation de l'éclipse totale de Lune du 26 septembre a aussi été organisée à l'observatoire Alphonse Tardif. Cette soirée contrastait avec celle du 3 avril qui avait eu lieu en pleine ville et démontrait bien comment le phénomène peut être encore plus impressionnant lorsque vu sous un ciel noir. L'automne a aussi été marqué par un atelier d'initiation à l'astronomie qui a permis d'accueillir les nouveaux membres.

En terminant, on ne peut passer sous silence la création de la page Web du Centre de Québec grâce à l'implication de Marcel Fontaine et la parution de la 52ième édition de l'almanach graphique résultat du

travail de Jean-Marie Fréchette et de ses collaborateurs.

Clément Drolet, secrétaire

Regina Centre

The highlight of the year for the Regina Centre was the annual Cypress Hills Star Party. This annual event which was in its 8 year was even better than ever. This year we were joined by the Saskatoon Centre. The barely advertised event drew 2 dozen people between Regina and Saskatoon Centres. The beautiful Cypress Hills Interprovincial park is the highest point east of the Rockies at an elevation of 1200 meters. The isolated location is free of any streetlights and provides superb, dark skies. Deep sky objects observed were most of the Messier objects in Sagittarius, the famous M57 in Lyra, the bright M13 in Hercules, my favorite - the Andromeda galaxy and much more.

The Saskatoon centre has agreed that Regina Centre has found a gem of a location and plans were made to return the following year to launch the Saskatchewan Star party. Planning a big event such as this has brought the 2 centres closer together. We can expect that many new friendships will be formed. If you are in southwest Saskatchewan on July 4-6 1997, stop by because Cypress Hills is a great place to do some telescope viewing.

Ross Parker, Secretary

St. John's Centre

The St. John's Centre had an interesting year from 1995-1996. The Centre continued to carry out an active programme of meetings, public displays, and educational programmes. Our regular meetings attract an audience of about 25 members or more on each occasion.

Early in 1996, Scott Gammon, a Newfoundland junior high school student, won the St. John's Centre Award for the best astronomy-related project in the Eastern Newfoundland Regional Science Fair. Scott was also a gold medal winner in the regional fair and went on to excel in the annual Canada Wide Science Fair. Scott had designed a computer program which gave a graphic display of the orbital paths due to gravitational interactions between two asteroids and the variation of these orbits around each other under varying situations, such as differences in the masses of each body, their shapes, rotations and proximities. In 1996 he presented his studies to a very appreciative audience at one of our Centre's monthly meetings.

An earlier acquisition of a ten-foot dish antenna that could be used for radio astronomy ventures has enthused some of our members. This item, which has been stored at Memorial University following its use in a non-astronomical project that has now finished, has occupied these members in considering the possibility of adapting it for astronomical purposes. The future radio telescope was moved with the help of MUN to a university storage site on Mt. Scio

Road. The dish and mount weighed two and a half tons, making the transfer an interesting experience. The Centre still must move it from this locale, but it removes our worries over immediate eviction from the old sight. We have yet to figure a permanent and convenient site for the radio telescope. Possibilities continue to be explored and hopefully with the coming of more suitable weather for follow-up activity, the Centre is optimistic that it may well represent a further area of development for interest amongst its members. The same group are also considering other forms of antennae for radio astronomy. If any other Centres have unused equipment they wouldn't mind getting rid of, or are interested in our plans, please contact us.

The Centre helped out the Nfld. Symphony Orchestra by setting up a display to go along with their concert of Holst's "The Planets". This went over successfully.

Centre members observed many things, in particular Comet Hayakutake. Members Chris Stevenson and Garry Dymond had taken several photos of the comet. One could easily see the comet's movement over a period of several nights with respect to the background stars.

On Monday March 18, 1996, the Centre had a special meeting at which Dr. Gretchen Harris of the Dept. of Physics, University of Waterloo, presented a talk titled "Highlights of Science with the Repaired Hubble Telescope". Thirty-eight people attended.

At our May 15, 1996 meeting, a talk from an outside speaker was given by Eve King on "Stars and

the Imagination". The talk was somewhat unusual in that it concerned the literary uses and appearances of themes astronomical in many literary works. The speaker succeeded in entrancing all present with the ability of astronomy or the sky to affect people not just through things scientific and visual, but also through things literary.

Fred Smith, a past President of the St. John's Centre and a member of Memorial University of Newfoundland, has been active in helping develop a Newfoundland Science Centre and had a particular interest in seeing that astronomy was well represented. Over a year ago, the Science Centre purchased a mobile planetarium, and has employed John Ennis, a member of the St. John's RASC Centre and a master mariner, as its full-time demonstrator. John has had an extremely active year travelling all over the Province, setting up the Skylab in school auditoria, and generating tremendous interest in astronomy amongst students. Members of the Centre also got a chance to experience the planetarium during one of our summer meetings. It is hoped that in the near future, John will find time to share his experiences and give more details on that project through a full account in an RASC publication.

Other members of the Centre have also played an active role in school education programmes, and the Centre continues to receive many requests from teachers and members of other organisations for help of this nature. Such participation has been appreciated by those requesting and receiving it,

and those members giving of their time in this fashion have found it very rewarding.

The Centre also acquired a new telescope to hopefully involve more beginner's. The Stargazer Steve turned out to be well suited to the task and with only a few minor modifications was added to the list of scopes that could be lent out.

Even the Society's *Observer's Handbook* was the subject of a talk. Fred Smith gave the talk to help people new to the Handbook, and perhaps astronomy, get familiar with how to use this invaluable guide to what's up there.

The St. John's Centre now has its own homepage on the internet. As well as giving information about local events organized by the Centre and information on the RASC in general, it is an additional source for linkages that would be of further interest to those viewing it. The address is "www.infonet.st-johns.nf.ca/rasc", without the quotes, of course.

Finally, a new executive with many new faces was brought in October past. One of our major goals is to provide a sight and set up a Centre observatory.

Good luck and clear skies!

David Bourgeois, Secretary

Saskatoon Centre

This year, the Saskatoon Centre had 56 paid up members and out of that a good core of active, interested people who were involved with club meetings, displays, public talks, observing and astrophotography.

Astronomy Day had an adequate number of volunteers and there was a moderate turnout of people at our display in the Lawson Heights Mall. The public star night associated with Astronomy Day was cancelled due to poor weather.

An active search for a new dark site is continuing with help and encouragement from the Physics Department of the University of Saskatchewan. An old heritage school site just north of the town of Colonsay (36 miles east of Saskatoon) where the skies are so dark one has trouble picking out the constellations, appears to be our best bet.

Two Astronomy nights have been held this year and were quite successful. Good food and fun were had by all.

Another big project spear headed by Erich Keser is the organization and promotion, along with the Regina Centre, of the Cypress Hills Star Party. We hope this develops into a big event in the future.

A list of presentations in 1996 are as follows:

January - "Observing Variable Stars" by Rick Huziak

February- "Reflections on a Lifetime of Observing" by Fr. Lucian Kemble

March - "Comet Hyakutake B2" by Don MacKinnon; "Progress on the 16" Telescope" by Bill Hydromako; "The Florida Winter Star Party" by Erich Keser

April - "Engineering the TPA Boom on the Planet B Mars Probe" by Jamie Thompson

May - "Upcoming Summer Activities and Star Parties" by Rick

Huziak and Erich Keser

June - "The GA Lecture" by Ed Kennedy; "The New Astronomy Trivia Calendar" by Stan Shadick

Jul/Aug - No General Meetings

September - "The Cypress Hills Star Party" by David Cornish; "The Northern Prairie Starfest" by Erich Keser; "The Douglas Park Star Party" by Darrell Chatfield; "The Lake Namekis Star Party" by Bob Christie

October - "More on Cypress Hills" by Kim Mysyk; "The 1996 Perseid Meteor Shower" by Rick Huziak; "The September Lunar Eclipse" by B. Hydromako, B. Christie, D. MacKinnon and A. Hartridge

November - "A 19th Century Surveyor's Compass" by Ed Kennedy; "The Recent Outburst of Markarian 421" by Rick Huziak; "Printing High Contrast Photos of M 42" by Al Hartridge

December - "Environment Canada's Weather Office" by Dan Kulyk.

Al Hartridge, Centre Secretary.

Thunder Bay Centre

1996 was an unusual year, with some of the clearest skies, but the coldest temperatures (-25c to 35c). At these temperatures viewing was not fun, however, some in the club braved the climate and went out. I was not one of them.

The club drew on locals for guest speakers. Topics ranged from meteorology and how it affects general astronomical view-

ing, to meteor sighting and calcifications. We also devoted a portion of each meeting to the interpretation of the *RASC handbook*. Ted Bronson, president, did a marvelous job of helping all those unfamiliar with this text get some meaning and usefulness from the handbook. A video series on astronomy was also shown at each meeting. Topics ranged from the history and development of astronomy to the origin of planets and galaxies. The videos were well done and it was an informative half hour.

1996 had its share of interesting observing with conjunctions, lunar eclipses and Comet Hyakutake, there was occasion to hold public viewing and plenty of pictures to go over and talk about. It was a year of increasing photographic skills.

Early in 1997, Bob Bishop, founder of the Thunder Bay RASC Centre passed away. A huge contributor to the club and the community through his involvement in various organizations. He will be missed and remembered each time we look toward the night skies.

Dave Galley, Treasurer

Toronto Centre

Members of the Toronto Centre have witnessed several changes in their Centre over the past year. Undoubtedly, the most significant of these events was the sudden closing of the McLaughlin Planetarium. The Planetarium had been the home of the Toronto Centre since its opening to the public in 1968. On October 26th, the Royal Ontario Museum (ROM) announced that it intended to close the McLaughlin Planetarium indefinitely as of December 10th. Thus, within the first month of the membership year, the Council of Toronto Centre was forced to search for a new venue for the Centre's meetings and a base for its activities.

The Ontario Science Centre (OSC) was selected by Council as the new home for the Centre from several institutions which offered to welcome the Toronto Centre, and we extend our grateful thanks to Dr. Emlyn Koster, then Director General of the OSC, for making their facilities available to us. The Council realizes that the moving of the Centre's meetings to the OSC has not been convenient to all of our members, but hopes that the net effect of the move will be a positive one for our membership. It is with sadness and regret that we must extend a departing thank you to Dr. Tom Clarke and all of the staff who over the past 27 years have made the Toronto Centre welcome at the McLaughlin Planetarium. The relationship which developed between the Planetarium and the Centre has been instrumental in the evolu-

tion of many of the programs and services the Centre provides to its members. Examples of the fruit of this relationship are the operation of the Optical Workshop in providing a means for Centre members to construct their own telescopes under the expert guidance of Centre volunteers and the many evenings of Star Theatre demonstrations by Planetarium staff members under the dome. In return, the Centre provided leagues of volunteers to the Planetarium and the ROM, to aid in presenting their astronomy Programme to the public.

Chaired by John Ginder, the public education committee was quite active over the past year. The Hobby Show at the International Centre was the first major public event. Coordinated by Robert Taylor, it ran from November 3rd - 5th. This was the Centre's first participation in this event and was well received by show attendees. The Comet Hyakutake Watch ran five days from March 24th -28th, at the Metro Toronto Zoo. Organized at the last minute, once Hyakutake was confirmed as a bright comet, it attracted over twenty-five hundred Torontonians to our program at the Zoo. Thanks go to the many members who brought out their scopes to this event, and to Toby Styles and the staff of the Zoo for their enthusiastic cooperation. Immediately on the heels of the Comet Watch came the Cottage Life Show at the International Centre on March 29th -31st. Coordinated by Kirsten Vanstone, it featured hands-on children's activities such as the making of a popcorn-cup planetarium. "Astronomy Week" events followed

all this activity and ran five days from April 20th -24th. In all, about three dozen volunteers from the Toronto Centre, the OSC, the University of Toronto and York University, combined their efforts to bring astronomy to the people of Toronto. Astronomy Family Sunday took place on April 28th at the ROM. As the first major astronomical event at the ROM following the closing of the Planetarium, it was a chance for the Centre to show its continued support for continued astronomy education and the speedy development of a refurbished McLaughlin Planetarium.

The Centre's shopping mall displays continue to be a popular means of introducing the public to astronomy and making them aware of the RASC. Three displays were organized this year by Robert Taylor at Cloverdale Mall, Dufferin Mall, and Erin Mills Town Centre. Four public star nights were held this past year on May 28th, June 25th, July 22nd, and August 4th. Several school and group talks, as well as three star parties, were conducted by John Ginder and Steven Spinney. The Centre continues to maintain its long-standing tradition of helping out the staff of the David Dunlap Observatory with their Saturday night viewing program. Several of our members brought out their scopes on clear nights from April 13th - October 5th. Although the lunar eclipse on September 26th was clouded out, Centre members still met with about 200 visitors to the OSC who attended to view the eclipse. Thanks go to Dr. Marshall McCall for arranging a diverse and very interesting programme of speakers.

These were

October 27th, "Radio Astronomy with the VLBI Zooming into the Heart of Quasars", by Professor Norbert Bartel

November 24th, "Starware: Exploring the Universe of Astronomical Software", by Mr. Ivan Semeniuk

January 24th, "Modern Sketches of the Celestial Sphere", by Dr. Jayanne English

February 21st, "New Insights into the Dynamics of the Inner Solar System", by Dr. Kimmo Innanen

March 20th, "The Music of the Spheres, or Why the Sun Rings", by Dr. Norman Murray

April 24th, "Planetary Nebula: Heralds of Stellar Death", by Dr. Robin Kingsburgh

May 22nd, "Galactic Rings", by Dr. Ronald Buta

September 25th, "The Big Bang Did Too Happen", by Dr. Lloyd Knox.

A joint meeting with the Royal Canadian Institute was held on March 10th. The speaker was Dr. Brian Marsden, who spoke on the possibility of a comet or asteroid impacting the Earth, how we might be able to identify such a threat, and what response could be offered. Centre members also set up their telescopes outside the MacCleod Auditorium at U of T for public solar observing prior to the meeting. Chaired by Guy Nason, the Observational Activities Committee organized eleven Members' Nights, where a total of 22 different individuals

gave 39 Members' Night presentations. Topics included: solar eclipse expeditions; the Winter Star Party; Mauna Kea Observatories; lunar eclipses; Nova Cass. 1995; Comet Hyakutake; telescope making; lunar crater drawings; an asteroidal occultation; Messier Marathons and extrasolar planet discoveries. Mr. Terry Dickinson's presentation at the May Members' Night, entitled "Summer Star Gazing", was especially well received. Unusually cloudy weather limited the members' Observing Workshops in Scarborough and Etobicoke to only six nights each. Robert Chapman conducted a series of seven Deep Sky Observing Workshops at Camp Robin Hood and Ken Davy and Brian Cheaney coordinated seven dark sky sessions at the Forks of the Credit Provincial Park. The occultation team successfully observed one asteroidal occultation and one lunar grazing occultation this year. Frank Dempsey and Guy Nason observed and measured the occultation of the star SAO111235 by Asteroid 85 Io on December 10th. Frank Dempsey, Steven Spinney and Guy Nason recorded a total of 28 events during the lunar graze of alpha cancri on March 30. Results from these events were reported to the International Occultation Timing Association.

The twelfth annual Toronto Centre Awards Banquet was held on Saturday, March 30th, at the Toronto Marriott Eaton Centre Hotel. Our guest speaker for the evening was Dr. Allan Busch who is the coordinator of the

Challenger Learning Centre at the Ontario Science Centre. Dr. Busch's topic was "After Challenger". He spoke of the Challenger disaster, how the family members of those killed decided to "make a difference" and started what has now evolved into the Challenger Learning Centre. Four Centre awards were also presented. The H. A. Winnearls Award for individuals making significant contributions towards the operation of the Centre was won by J. Randy Attwood. The Andrew Elvins Award for efforts toward the promotion of interest in astronomy and the Society among the general public was won by Geoffrey Gilmour-Taylor. The Bertram J. Topham Award for significant contributions to the observing programs of the Centre was won by Brian Cheaney and Ken Davy. The Jesse Ketchum Award, to recognize those who have done considerable work in the construction and/or application of equipment suitable for astronomical observation, was won by David Sage. Door prizes for the evening were kindly supplied by Ray Khan of Khan's Scope Centre. Thanks go to Mary Anne Harrington for organizing a most enjoyable evening. Congratulations go to Mr. Haryadi Christiano, who was the winner of the 1996 RASC - Toronto Centre Gold Medal. This award is presented to the highest ranking student in the undergraduate astronomy Programme at the University of Toronto.

As of September 30th, the membership of the Toronto Centre included 576 regular, 25 youth, and 81 life members, for a total of 682. It is with regret that I must

report on the death of one of our members. Mr. Cyril Clark was a Centre member since 1966 and also served the Society as National Treasurer for a term. The Centre's newsletter, *SCOPE*, continues to be our members' primary link to the Centre's activities. Serving the Centre as the editor of *SCOPE* requires a significant commitment of time and effort and I extend a special vote of thanks to David Hanson who is stepping down from the editor's position after producing *SCOPE* for the past two and a half years. The optical workshop continues to operate under the direction of Michael Nunns. During this past year, 13 members have been making 6 and 8 inch f/6 mirrors, with two being completed and the remainder currently at the final parabolizing stage. Currently, the group has had access to the workshop in the Planetarium only during the open hours of the visiting STAR TREK exhibit. A more permanent location for the workshop is being sought to allow the next group of twelve members to begin work. Our annual open house at the David Dunlap Observatory was held on September 14th. I extend grateful thanks to Dr. Ernest Seaquist, Dr. Tom Bolton, and their staff, for their kind hospitality. On behalf of the Toronto Centre, I thank all those members whose generosity of their time and talents made possible the many activities mentioned only briefly herein. Thanks also go to the Ontario Ministry of Natural Resources and Camp Robin Hood for their permission to use their grounds for our observing activities.

Finally, I extend thanks to Dr. Emlyn Koster and the Ontario Science Centre for welcoming us to the OSC and for very kindly allowing us to use their facilities.

Tony Horvatin, Secretary

Vancouver Report

Hello to all other Centres from Vancouver! As some of you know, we have had quite a year here in 1996. I guess the thing that really stands out for us was the start and near completion of our Supernova/Comet search facility: CARO (Canadian Amateur Research Observatory). The site was chosen from several possible locations in January with ground breaking taking place in February. We have located our observatory in the UBC Research Forest about 45 minutes from Vancouver. With the assistance of the University of British Columbia, the Hertzberg Institute, and many members, we are finally nearing completion of our two domes. The main dome is a two floor building with a 10" diameter dome on one end and a single floor processing room on the other. It will house our 16" Meade LX 200 (provided by the Hertzberg Institute) and all the computer terminals. We are just awaiting electrical inspection in order to complete the building. The other building is a 10' dome that was donated by one of our long time members, Mr. Art Holmes, along with his telescope. Unfortunately, Mr. Holmes passed away before the completion of this facility and the installation of his

prized 14" Newtonian. As the year drew to a close, both of these buildings are in the final stages before observing begins. The Council would like to thank the many members who have donated time and materials to make this dream a reality.

The year was not without other high points, making this one of the most enjoyable that this writer has spent with other amateur astronomers. January brought us a fine planetarium show that was written by Gary Seronik. These great shows are one advantage of holding meetings in the Pacific space Centre's auditorium. February brought us Dr. Leigh Palmer from Simon Fraser University to present his ideas on Big Bang theory. His talk, "The State of The Universe", was a big success. March rang in the first of "Lee Johnson's Original Amateur Hours" where centre members entertained us with a variety of topics. And who could forget the great Comet Hyakutake parties at the Planetarium. On the first night, several hundred people gazed at the moon and Venus through my scope and about two dozen others; the comet was firmly entrenched in clouds. The second night was as near perfect seeing as you can get from a city of a million people, and the line-ups at the scopes were over half an hour long!

April brought us a lecture and slide presentation by Dr. John Hornsby, Director of Operations at Radarsat International. His talk, "Radarsat: Canada's Earth Observatory" was very enjoyable and informative about this locally operated service. May arrived with

UBC's Dr. Harvey Richer telling us about his work with the Hubble Telescope on "White Dwarfs in M4". Again, I could not be parted from my seat in the front row. Gary Seronik entertained us in June with another Planetarium show entitled "Jupiter: A Planet For Galileo". Unfortunately I was unable to attend, but everyone I talked to afterward had enjoyed the show very much.

July brought us the first of our Manning Park Star parties which usually present us with some of the best observing of the year. This year was no exception, with clear steady seeing all night long. We were also entertained by Lee Johnson's Amateurs again, this time with many slides of the great Comet of 1996. August's meeting was firmly situated between the Perseid's peak and the start of the Mount Kobau Star Party, so we did what we always like to do... we went observing and didn't hold a meeting. September more than made up for August's loss with one of our favorite guest speakers, Mr. Ray Villard from the Space Telescope Science Institute. As is becoming an annual event, Ray entertained us in superb fashion and showed us slide after slide after slide. No-one could sit there and not be moved by the wonder and beauty of the things that Hubble has discovered or enlightened.

October brought our third member's night. This is our usual fall meeting where we all get to discuss our observing around the country and the equipment we use to do it with. November's guest speaker was to be by Howard Yee from the University of Toronto.

Unfortunately, Mr. Yee had a conflict, but a fellow CFHT member filled in and lectured on the youngest galaxy ever found. December's meeting was our Annual General Meeting where the executive for 1997 were introduced to the membership. The second half of this meeting was a repeat performance of Lee's amateurs.

What with all the regular meetings and the two main star parties, we still managed to form a club within a club; the M club is dedicated to observing all 110 messier objects. We also attended several functions such as Astronomy Day, Fraser River Days, and the Eclipse party held by the Pacific Space Centre. We all look forward to a continuation of this great adventure next year.

Bob Parry, Secretary

Victoria Centre

Interest in astronomy has always been high in Lotus Land. New members appear regularly to keep our membership hovering around 115 or so.

Strangely, there are many members who drop out after a short stay with us. Why? We wish we knew. There are those who join and become addicts; and there are those who join and drop out quickly. In an effort to counteract this trend, our programs have been geared to helping new members by offering them good equipment, and knowledgeable members to help them learn their way around the constellations.

We hold three meetings a month: a regular meeting, a begin-

ner's group, and an advanced bunch who like to call themselves the CCD observer's group. We don't all have CCDs, but the interest is there, as is evidenced by the avid scrutiny they engage in of computer images taken by those who do have CCDs.

More members are showing an interest in photography and a number of good slides and prints are making an appearance. A few members are putting their sketching abilities to work and producing some fine results.

Planned observing sessions are usually clouded out, except during the summer when high pressure dominates the area. What we need is a chemical-loaded rocket that can be fired into the murk to dissipate the clouds. If anyone can come up with one, the centre will nominate him/her for a Nobel Prize!

Victoria has decided to host the 1998 general assembly. The dates are June 19 - 22 and we have chosen to hold it at the Lester B. Pearson College of the Pacific, rather than at the University of Victoria. Pearson College has everything a GA could need, all on campus, and is situated on the southernmost tip of Vancouver Island. The location is idyllic: forested and right on the ocean's edge and with its own dock. Delegates and visitors to this GA will be able to take the College's boat out to view basking sea lions on small islets and maybe spot a killer whale or two.

The College owns a splendid observatory with a view overlooking the snow-capped Olympic Mountains in Washington State across the Strait of Juan de Fuca. We will have full use of its facilities, including Jack Newton's 25-inch Newtonian, which is now sited

there, and CCD equipment with a bank of computers.

The Centre is looking forward to welcoming as many of you as can make it to what we hope will be a memorable experience.

Here is a run down on the speakers and topics we enjoyed during the year.

October 1995, Dr. Doug Hube, "The Edmonton Centre's Grazing Lunar Occultation Expedition to Ft. Nelson, B.C."

November, the Centre's Annual General Meeting and Dinner, with Jack Newton giving a slide show of "The Newton's Astronomy Tour of the U.K."

December, Member's Night.

January 1996, Member's Night.

February, Dr. Alan Batten, "Binaries Now and Then - Tales of a Misspent Youth."

March, Dr. Pat Cote, "The Eating Habits of the Milky Way."

April, Member's Show and Tell.

May, Dr. Jim Stilburn: "Adaptive Optics."

June, Dr. Simon Morris, "Quasars - Lightbulbs at the Edge of the Universe."

July and August, no meetings.

September, Member's Night.

October, Dr. Grant Hill, "Finding Chemical Abundances in Real Upper Main Sequence Stars."

Windsor Centre

After the high we rode in 1995 with the GA and our Fiftieth Anniversary, this year was a relatively quiet one.

The year started on a sad note, with the passing of Russel Lobzun. Russel's generosity to the Centre after his death was as great as his living contributions, with the donation of his equipment and astronomical library.

The highlight of the year was the Spring Picnic at Dan Taylor's. About half of our members and their families were present to enjoy the festivities. After the BBQ, members observed until all hours of the morning.

Most of the shake up in the Centre came from National Office with the resignation of Executive Secretary Rosemary Freeman, in July, at the GA in Edmonton.

More national changes included the changeover in the way memberships are handled. University of Toronto Press will now be handling all membership and publications. The Centre membership felt they were dealt a curve, so a petition was planned and filed with National Council.

On old friend to the Centre, the Bawtenheimer Telescope was refurbished by Alan DesRosiers and rededicated in May.

Special Guest Speakers this year were Dave McCarter from the London Centre (Mirror Grinding Techniques), Marty Kuntz from the Warren Astronomical Society (The Sun) and Barry Craig from the Detroit Astronomy Society (Make A Comet).

Frank J. Shepley, Secretary

Winnipeg Centre

For us in Winnipeg, our observaton year was sandwiched between two of the worst winters in memory: it was a record cold in 95/96, with days on end of -30 degree temperatures, and we had record snow levels in 96/97. Our summer was no

screaming heck, with severe hail yielding millions of dollars in claims within the city alone.

Enough about the weather - our attendance at centre meetings has risen sharply, probably due to Comet Hyakutake. Several of our members braved -27 degree the night of 24 March to treat the public to the most spectacular comet in years. It was well publicized, so hundreds of people, many of them clearly underdressed, were willing to wait in long lines to get to a scope. It was worth the discomfort to hear the gratitude from so many citizens.

We were both sad and elated for Scott Young, our intrepid President who won, in a series of whirlwind email and telephone conversations, a position of planetarium director in Massachusetts. It was all very sudden, but our regret at losing such an energetic individual was tempered by our wish for his success. Quickly stepping in to ensure continuity was a fixture in our midst, Jay Anderson. He has gone onto provide exceptional leadership, for which the members are grateful.

At the General Meeting, almost 20 persons indicated that they would be interested in making a Dobsonian in the months leading up to Comet Hale-Bopp. Ken Noesgaard agreed to lead the group, and as of the January 97 meeting nearly ten have placed firm orders for optics.

Winnipeg Centre meets in the Jensen Theatre of St. Paul's College beginning at 1930 hours on the second Friday of each school month. Our publication *WINNICENTRICS* can be accessed online at <http://www.pangea.ca/~neff/rasc>. We wish everyone clear skies ..dark, too

Crandell C. Overton, Secretary

| | Calgary | Edmonton | Halifax | Hamilton | Kingston | Kitchener Waterloo | London | Montreal | C.F. de Montreal | Niagara | Okanagan |
|---|-----------|------------|-----------|----------|----------|-----------------------|---------|----------|---------------------|---------|----------|
| Revenue | | | | | | | | | | | |
| Membership Fees (Regular) | \$7,003 | \$1,850 | \$3,304 | \$1,246 | \$2,660 | \$1,057 | \$1,449 | \$3,033 | \$354 | \$1,444 | \$1,044 |
| Membership Fees (Basic Surcharge) | \$2,044 | \$348 | | \$455 | | | \$116 | \$1,312 | | | |
| Membership Fees (Special Surcharge) | \$360 | | | \$0 | | | | | \$191 | | |
| Life Member Grants | \$245 | \$129 | \$446 | \$29 | \$130 | | \$72 | \$290 | | \$43 | |
| Donations | \$980 | \$139 | \$5,806 | \$995 | \$15 | | \$285 | \$161 | \$87 | \$849 | |
| Fundraising | | | \$467 | \$20 | | | \$155 | | | \$103 | |
| Educational Activities | \$1,209 | | | \$220 | | | | | \$135 | | |
| Interest and Dividends | \$496 | \$1,240 | \$557 | \$1 | \$6 | | \$294 | \$3,977 | \$5 | \$4 | |
| Sale of Handbooks (net) | \$336 | \$63 | \$63 | \$11 | \$144 | | \$12 | \$142 | \$60 | \$47 | |
| Sale of Calendars (net) | \$457 | \$80 | \$183 | \$40 | (\$134) | \$60 | \$5 | \$75 | | (\$35) | |
| Sale of Beginner Observing Guides (net) | (\$102) | | \$12 | | \$105 | | \$27 | \$122 | | \$6 | |
| Advertising | \$20 | | | \$84 | | | | | | | |
| General Assembly (incl. Travel Grants) | | \$20,592 | | | | | | | | | |
| Miscellaneous | \$1,493 | \$1,176 | \$446 | \$1,235 | \$1,023 | | \$83 | \$480 | \$5,850 | \$29 | \$76 |
| Total Revenue | \$14,541 | \$25,554 | \$11,284 | \$4,336 | \$3,948 | \$1117 | \$2,498 | \$9,592 | \$6,682 | \$2,490 | \$1,120 |
| Expenses | | | | | | | | | | | |
| Membership fees to National Office | \$4,404 | \$194 | \$2,003 | \$940 | \$1,429 | \$565 | \$869 | \$1,820 | \$194 | \$819 | \$346 |
| Library | | \$1,638 | | \$135 | \$22 | | | \$561 | | | |
| Meetings | | \$469 | \$174 | \$235 | | | | \$498 | \$550 | \$241 | \$204 |
| Newsletter | \$2,592 | \$1,830 | \$992 | \$288 | \$657 | \$82 | \$402 | \$1,066 | \$534 | \$654 | \$268 |
| Annual Dinner (net) | (\$44) | | | | | | (\$13) | | | (\$371) | |
| General Assembly (incl. Travel Grants) | | \$20,572 | \$180 | | \$100 | | | \$485 | | \$214 | \$188 |
| Equipment & Supplies | | \$9,657 | \$290 | \$219 | \$170 | | | \$478 | \$664 | | |
| Office Administration | | \$187 | | \$395 | \$852 | | | \$455 | \$1,279 | \$14 | \$61 |
| General Expense and Audit | \$2,211 | \$32 | | \$97 | \$7 | | \$103 | | \$239 | \$42 | \$225 |
| Educational Activities | \$80 | | | | \$37 | | | | | | |
| Insurance | \$1,399 | | | \$691 | \$132 | | | \$937 | \$1,061 | | |
| Awards and Donations | \$312 | \$5,818 | | | | | \$10 | | | \$53 | \$45 |
| Observatory | \$730 | | \$9,628 | \$521 | | \$264 | | \$1,419 | \$750 | \$43 | \$43 |
| Miscellaneous | \$4,897 | | \$232 | \$235 | \$1,000 | \$53 | \$101 | \$109 | \$27 | \$181 | \$79 |
| Total Expenditures | \$16,581 | \$40,397 | \$13,499 | \$3,756 | \$4,407 | \$964 | \$1,472 | \$7,828 | \$6,436 | \$1,847 | \$1,459 |
| Surplus (Deficit) | (\$2,040) | (\$14,843) | (\$2,215) | \$580 | (\$459) | \$153 | \$1,026 | \$1,764 | \$246 | \$643 | (\$339) |
| Balance from 1995 | \$21,182 | \$53,304 | \$16,969 | \$2,232 | \$1,709 | \$1,563 | \$4,197 | | | \$1,247 | \$538 |
| Balance to 1996 | \$19,142 | \$38,461 | \$14,754 | \$2,812 | \$1,250 | \$1,716 | \$5,223 | | | \$1,890 | \$199 |

| | Ottawa | Quebec | Regina | St. John's | Samia | Saskatoon | Thunder Bay | Toronto | Vancouver | Victoria | Windsor | Winnipeg |
|---|----------|---------|---------|------------|--------|-----------|-------------|----------|-----------|----------|---------|----------|
| Revenue | | | | | | | | | | | | |
| Membership Fees (Regular) | \$6,995 | \$2,580 | \$684 | \$1,215 | \$150 | \$1,737 | \$706 | \$21,671 | \$7,038 | \$2,855 | \$1,875 | \$2,133 |
| Membership Fees (Basic Surcharge) | | | \$76 | | | \$231 | | | | | | \$749 |
| Membership Fees (Special Surcharge) | | | | | | \$30 | | | | | | |
| Life Member Grants | \$116 | \$20 | \$183 | \$43 | \$14 | \$58 | | \$1,195 | \$187 | \$316 | \$43 | \$14 |
| Donations | \$1,338 | \$80 | | | | \$285 | | \$1,929 | \$1,030 | \$32 | \$857 | \$2,942 |
| Fundraising | | \$620 | | | | | | | \$1,444 | | \$2,093 | \$344 |
| Educational Activities | | | | \$360 | | | | | | | | |
| Interest and Dividends | \$275 | \$53 | \$3 | \$191 | \$3 | \$9 | | \$2,458 | \$96 | \$486 | \$6 | \$62 |
| Sale of Handbooks (net) | \$10 | \$45 | \$57 | \$18 | | (\$7) | | | \$63 | \$30 | \$127 | \$1 |
| Sale of Calendars (net) | \$95 | \$40 | \$46 | \$5 | | \$50 | \$30 | \$56 | \$1,097 | (\$10) | \$410 | \$148 |
| Sale of Beginner Observing Guides (net) | | | | (\$149) | | | | \$189 | | \$44 | \$161 | \$6 |
| Advertising | | \$50 | | | | | | | \$175 | | | |
| General Assembly (incl. Travel Grants) | | | | \$30 | \$50 | \$3 | | \$883 | \$6,446 | \$1,451 | \$556 | |
| Miscellaneous | \$165 | \$25 | \$1,049 | \$1,713 | \$217 | \$2,396 | \$736 | \$28,381 | \$17,576 | \$5,204 | \$6,125 | \$6,399 |
| Total Revenue | \$9,351 | \$3,513 | | | | | | | | | | |
| Expenses | | | | | | | | | | | | |
| Membership fees to National Office | \$3,991 | \$730 | \$464 | \$659 | \$116 | \$1,064 | \$424 | \$13,106 | \$4,255 | \$1,752 | \$1,107 | \$1,280 |
| Library | \$151 | \$775 | | \$287 | \$68 | \$749 | \$30 | \$1,090 | \$870 | \$15 | \$447 | \$73 |
| Meetings | \$60 | | | | | | | \$4,638 | \$2,780 | \$1,286 | \$491 | \$642 |
| Newsletter | \$2,034 | | | | | | | \$457 | | (\$78) | | |
| Annual Dinner (net) | (\$51) | | | \$110 | | | | | \$850 | | | |
| General Assembly (incl. Travel Grants) | \$610 | \$115 | \$438 | | | | | | \$961 | | \$905 | |
| Equipment & Supplies | \$810 | \$230 | \$63 | \$93 | \$23 | \$120 | \$52 | \$3,907 | \$900 | | | \$30 |
| Office Administration | | | \$60 | \$38 | | | \$104 | \$722 | \$323 | \$111 | \$389 | \$36 |
| General Expense and Audit | \$774 | \$75 | | | | \$42 | | \$1,977 | \$11,606 | | \$15 | |
| Educational Activities | \$661 | | | | | \$274 | | | | | | \$567 |
| Insurance | | | | | | \$25 | \$25 | | | | | \$200 |
| Awards and Donations | \$2,001 | \$460 | \$359 | | | | | | | | \$146 | \$3,067 |
| Observatory | | \$1,030 | \$25 | | \$86 | | \$164 | \$2,328 | \$335 | \$1,775 | \$684 | |
| Miscellaneous | | \$3,415 | \$971 | \$1,625 | \$293 | \$2,274 | \$799 | \$22,895 | \$22,895 | \$4,966 | \$4,185 | \$5,895 |
| Total Expenditures | \$11,041 | \$98 | \$78 | \$88 | (\$76) | (\$122) | (\$63) | \$156 | (\$5,319) | \$238 | \$1,944 | \$504 |
| Surplus (Deficit) | \$32,600 | \$1,274 | (\$926) | \$1,250 | \$553 | \$15,604 | \$1,297 | \$52,052 | \$24,416 | \$1,641 | \$3,989 | \$2,281 |
| Balance from 1995 | \$30,913 | \$1,372 | (\$848) | \$1,338 | \$477 | \$15,726 | \$1,234 | \$52,208 | \$19,097 | \$1,879 | \$5,933 | \$2,785 |

The Royal Astronomical Society of Canada

Officers and Council of the Centres for 1997

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Centre Mailing Address: C/O P.O. Box 2100, Station "M" Calgary, Alberta T2P 2M5

Centre Email: rascexec@f122.n134.Z1.fidonet.org

Centre Web Site: <http://www.syz.com/rasc/>

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Secretary: Susan Yeo, 3424B 2nd Street N.W. , Calgary, Alberta T2K 0X9, (403)276-9313, e-mail: rodan@telusplanet.net

Starseeker Editor: Tom Cameron, 212 Midridge Place S.E. , Calgary, Alberta T2X 1E5, (403) 254-2741, e-mail: cameron@cadvision.com

Observing Group: Rick Weis (see Past President, above)

Observatory Director: Sid Lee #2, 3135 41 St. S.W. Calgary, Alberta T3E 3K9 (403)246-2030, slee@agt.net

Librarian: Mike Willie, 152 Cedarpark Green S.W., Calgary, Alberta, T2W 2J9, (403)281-2094, williem@cadvision.com

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Edmonton Centre

Centre Mailing Address: c/o Edmonton Space & Sciences Centre, 11211 - 142 Street, Edmonton, Alberta, T5M 4A1

Centre Email: rascedm@worldgate.com

Centre Web Site: <http://worldgate.com/~rasc/>

President: Bruce McCurdy, (403) 455-3236, 10830 - 128 Street, Edmonton, Alberta, T5M 0W2, bmcurdy@freenet.edmonton.ab.ca

Vice-President: Paul Campbell, (403) 433-1516, 107 9905 - 83 Avenue, Edmonton, Alberta, T6E 2B9, scopedr@connect.ca

Secretary: Terry Nonay, (403) 456-6957, 316 Dunluce Road, Edmonton, Alberta, T5X 4P3, trnonay@worldgate.com

Treasurer: Mel Rankin, (403) 469-3066, 4203 - 106B Avenue, Edmonton, Alberta, T6A 1K7

Past President: ShirLee Adamson, (403) 922-4021, 430 Hillside Park, 51112 Range Road 222, Sherwood Park, Alberta T8C 1G9, adamsons@worldgate.com

Observing Coordinator: Larry Wood, (403) 488-8082, 1203 - 10145 - 119 Street, Edmonton, Alberta, T5K 1Z2, woodchuk@freenet.edmonton.ab.ca

STAR DUST Editor: Harris Christian, (403) 461-4933, 1498 Knotwood Road North, Edmonton, Alberta, T6K 2K1, Harris.Christian@INAC.inacainc.x400.gc.ca

National Council Representative: Franklin Loehde, (403) 477-8881, 11107 - 63 Street, Edmonton, Alberta, T5W 4E3, 73753.3425@compuserve.com

Alternate National Council Representative: Richard Vanderberg, (403) 484-2213, E308 16620 - 88 Avenue, Edmonton, Alberta, T5R 4L1

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Barry Arnold, (403) 467-4902, arnold@ee.ualberta.ca;

Bob Drew, (403) 435-7013, rdrew@gpu.srv.ualberta.ca;

George Maher, (403) 488-0841, geomaher@freenet.edmonton.ab.ca;

Murray Paulson, (403) 459-1168, mpaulson@freenet.edmonton.ab.ca

Observing Site & Equipment Director: Ben Gendre, (403) 475-0274

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Librarian / Books: Richard Landerberg, (403) 484-2213; Sharon Tansey, (403) 458-9345, email: mtansey@connect.ab.ca

Librarian / Software:, Wallace Anhorn, (403) 453-2355, email: waedan@freenet.edmonton.ab.ca

Assistant Librarian / Software:, Robbie Anhorn, (403) 453-2355, email: ranhorn@istar.ca

Social Activities Director: Sherry MacLeod, (403) 433-1516, email: etagem@freenet.edmonton.ab.ca

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Website Administrator: Barry Nonay, (403) 455-1450, email: banonay@worldgate.com

Halifax Centre

Centre Mailing Address: PO Box 31011, Halifax, NS B3K 5T9

Centre Email:, E-mail: rasc@hercules.stmarys.ca, hfxexec@astrotech.stmarys.ca (all of executive), raschfx@astrotech.stmarys.ca (most members with e-mail)

Centre Web Site: <http://apwww.stmarys.ca/rasc/rasc.html>

Contacts: Dave Lane (902) 420-5633 (8:30 AM- 4:30 PM, M-F), Blair MacDonald (902) 445-5672 (evenings)

President: Dave Chapman, 8 Lakeview Ave, Dartmouth, N. S. B3A 3S7, 463-9103
e-mail: chapman@fleet.drea.dnd.ca

1st Vice President: Blair MacDonald, 28 Laurentide Drive, Halifax, N.S., B3M 2N1, 445-5672, nstn1399@fox.nstn.ca

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Secretary: Mary Lou Whitehorne, 53 Zinck Ave., Lr. Sackville, NS, B4C 1V9, 865-0235, ML.Whitehorne@stmarys.ca

Treasurer: Ian Anderson, P. O. Box 148, Centreville, N. S., B0P 1J0, 542-0772
National Rep: Patrick Kelly, 159 Town Road, RR#2 Falmouth, N. S. B0P 1L0 798-3329, pkelly@tuns.ca
Nova Notes Editor: Dave Lane, 26 Randall Ave., apt. 4, Halifax, N. S. B3M 1E2 443-5989, dlane@husky1.stmarys.ca
Observing Chairman: Shawn Mitchell, 94 Alder Crescent, Lr. Sackville, N.S., B4C 1A2 865-7026, smitchel@hercules.stmarys.ca
Librarian: Greg Spearns, RR#5, Box 31 site 4, Armdale, NS, B3L 4J5, 868-2626
Councillors: Paul Gray, 469-0947, email: pgray@hercules.stmarys.ca; Dr. David Turner 435-2733, turner@husky1.stmarys.ca; Robin Clayton 864-6913 ad649@ccn.cs.dal.ca
Gazer: gazer@hercules.stmarys.ca

Hamilton Centre

Centre Mailing Address: P.O. Box 1223, Waterdown, ON, L0R 2H0
President: Roger Hill (acting President)
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Kingston Centre

Centre Mailing Address: P.O. Box 1793 Kingston, Ontario K7L 5J6,
Centre email: rascexec@cliff.path.queensu.ca
Centre Web Site: <http://www1.kingston.net/~rasc>
President: Peggy Torney, 613-279-2894, torneypp@frontenac.net
Vice President: Christine Kulyk, 613-549-1461, 72730, 3121@compuserve.com
Secretary: Laura Gagne, 613-531-9717, rainbow@adan.kingston.net
Treasurer: Kim Hay, 613-353-1189, kimhay@adan.kingston.net
Librarian: Jim Towgood, 613-389-3542
Newsletter Editor: Kevin Kell, 613-546-2717, kevin.kell@starstream.crp.kingston.on.ca
National Council Rep: Kim Hay, 613-353-1189, kimhay@adan.kingston.net
Alternate N.C. Rep: Susan Gagnon, 613-389-4710, sdgagnon@post.kosone.com
Honorary President: David Levy, dhlevy@lpl.arizona.edu

Committees
Education: Kim Hay, 613-353-1189, kimhay@adan.kingston.net
Publicity: Christine Kulyk, 613-549-1461, 72730.3121@compuserve.com
Observing: Peggy Torney, 613-279-2894, torneypp@frontenac.net
Astronomy Day: Cathy Hall, 613-828-8807, 72732.3246@compuserve.com
Light Pollution: John Baker, Joanne Burns

GA: Peggy Torney, 613-279-2894, torney@frontenac.net
Constitution (ad hoc): Leo Enright, 613-279-2577 enrigh1@admin.fcbe.edu.on.ca

Kitchener–Waterloo Centre

Centre Mailing Address:, c/o Jeff Brunton, 36 Robinson Rd, Brantford, ON, N3T 5L7

Centre Email: johnbein@golden.net

Centre Web Site: <http://www.wlu.ca/~wwwphys/RASC-KW>

Past President: Jeff Collinson, 63 Grandridge Crescent, Guelph, Ont. N1H 8G2

President: John Beingessner, 1038 Hidden Valley Road, Kitchener, Ont. N2G 3W5

1st Vice President: Clark MacDonald, 313 Pastern Trail, Waterloo, Ont.

2nd Vice President: Darryl Archer, 64 Tamvale Cresc., Kitchener, Ont. N2E 3K7

Treasurer: Peter Daniel, 36 Talbot Street Apt. 101, Kitchener, Ont. N2M 2A9

Secretary: Jeff Brunton, 36 Robinson Rd, Brantford, Ont. N3T 5L7

Editor: John Molson, 14 Thornbush Crescent, Waterloo, Ont. N2T 1B2

National Rep: Ray Koenig, 49 Sorrel Place, Waterloo, N2L 4H2

London Centre

Centre Mailing Address: P.O. Box 842, Station B, London, ON, N6A 4Z3

Centre Email: jedickep@claven.fanshawec.on.ca

Centre Web Site: <http://phobos.astro.uwo.ca/~rasc/>

President: John Rousom, Box 12, 666-1890, Arva, Ontario, N0M 1C0

Vice President: Dave McCarter, 511 Hibiscus Ave., 472-1437, London, Ontario, N6H 3P2

Secretary: Jennifer Foster, 706-1761, Jalna Blvd 681-5057, London, Ontario, N6E 3S4

Treasurer: Dave Clark, 173 Gatineau Road, 657-6825, London, Ontario, N6K 2Z6

Past President: Norm Smith, 477 Salisbury St., 659-7580, London, Ontario, N5Y 1H6

Honourary President: Peter Jedicke, 82 Barrydale Cres., 474-5899, London, Ontario, N6G 2X4

National Rep: Mark St. George, 1157 Bucke St., 453-5321, London, Ontario, N5Y 3S2

Observers Group Chair: Dave McCarter, 511 Hibiscus Ave., 472-1437, London, Ontario, N6H 3P2

ATM Chair: Mike Hanes, 255 Mitchell Ave., 268-2000, Dorchester, Ontario, N0L 1G3

Librarian: Bob Duff, 541 Simcoe St., Apt B, 439-7504, London, Ontario, N6B 1K3

Newsletter Editor: Joe O'Neil, 356 William St., 679-8840, London, Ontario, N6P 3P7

Centre Francophone de Montreal

Centre Mailing Address: C.P. 206 Station Saint-Michel, Montréal, QC, H2A 3L9, tel: (514) 728-4422

Centre Email: sam@cam.org

Centre Web Site: <http://www.cam.org/~sam/>

President: Marc Fortin

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Secrétaire-trésorier: Patrice Gérin-Roze

Conseillers: Sophie Collin, François Chèvrefils

Bibliothécaire: Gilles Beauséjour

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Responsable informatique: Louis Lapierre
Expositions et publicité: Marc Fortin

Montreal Centre

Centre Mailing Address: P.O. Box 1752, Station B Montreal, Quebec H3B 3L3, 514-845-2612
Centre Email: rascmtl@colba.net
Centre Web Site: http://www.generation.net/~gphantom/rasc_mtl/rascindx.html
Honorary President: David Levy
President: Gary Angers, 1569 Avenue Ducharme, Outremont, Quebec H2V 1G4, 514-278-8833
Vice-President: George Ashcroft, 159 Bedrock Avenue, Montreal-West Quebec H4X 1R7, 514-481-4442
Secretary: Carole Talbot, 18 Parkdale Avenue, Pointe Claire Quebec H9R 3Y3, 514-697-5870
Treasurer: Douglas G. Middleton, 24 St-Georges Apt 204, Ste-Anne-de-Bellevue, Quebec, H9X 1J5, 514-457-9241
Recording Secretary: David Shuman, 5583 Borden Avenue, Cote-St-Luc Quebec H4V 2T7, 514-481-4580
Director of Observatory: Stewart Marshall, 35 Marian Avenue, Apt 2-B, Dorval, Quebec, H9S 1A4, 514-631-5716
Director of Observations: William Strople, 8221 Place Vaujourns, Ville D'Anjou, Quebec H1K 1H6, 514-352-0237
Librarian: Cathy Palmer-Lister, 396 Rue des Jacinthes, Ste-Julie Quebec, 514-649-0503
Directors: Johanne Gamache, 55 Drolet, Chateauguay, Quebec, J6K 1R3, 514-699-1070; Santiago Lopez, 17000 Pierrefonds Blvd, Apt 10, Pierrefonds, Quebec, H9V 2V3, 514-624-9368; Frank Tomaras, 4915 Rene Coty, Laval, Quebec, H7W 4T7, 514-688-9896; George Wade, 1552 Nielsen Street, St-hubert Quebec, J4T 1N7, 514-676-3096
National Council Representative: George Ashcroft

Niagara Centre

Centre Mailing Address: P.O. Box 241, Niagara Falls, ON L2E 6T3
Centre Email: rascniag@freenet.npiec.on.ca
Centre Web Site: <http://www.vaxxine.com/rascniag>
President: Ray Merrick, 72 Dunvegan Dr., St. Catharines, ON, L2P 1J1, (905) 984-4086
Vice-President: John Fishleigh, 2 Beachwood Ct., St. Catharines, ON, L2N 3H7, (905) 934-1767
Secretary: Ron Gasbarini, 518-64 Roehampton Av., St. Catharines, ON, L2M 7P5, (905) 935-4962
Treasurer: Dave Stremlaw, R.R.#3, 608 Memorial Dr., Fenwick, ON, L0S 1C0, (905) 892-2767
Editor: David Saunders, P.O. Box 373, 450 Queen St., Niagara-on-the-Lake, ON, L0S 1J0, (905) 468-4557
Observers' Group Chairman: Rob Lenz, 16 Strathcona Dr., St. Catharines, ON, L2M 3V8, (905) 937-6555

Directors: Charles Fassel, Sudesh Gupta, Keith Sudds

National Council Representative: Randy Vant, 5777 Woodland Blvd., Niagara Falls, ON, L2G 5K9, (905) 356-7516

Okanagan Centre

Centre Mailing Address: c/o Ron Schrer, 11450 Darlene Rd, Winfield, BC, V4V 1Y4

Centre Email: ron@bcinternet.com

Centre Web Site: www.bcinternet.com/~rasc

President: Ron Bell, 1290 Creekside Rd., Kelowna B.C. V1X-1B3, (250) 717-8496, bellstar@ogopogo.com

Vice President: Laird Bowie, 1438 Mountain Ave., Kelowna B.C. V1Y 7H5, (250) 861-6646, lbowie@silk.net

Second Vice-President: Harold Morgan, RR7 Box 80 Desert C, Vernon, BC, V1T 7Z3, (250) 542-9986, Harold_Morgan@bc.sympatico.ca

Treasurer: Jim Failes, 1069 Calmels Cres., Kelowna, BC, (250) 763-6962, jfailes@chbc.wic.ca

Secretary: Ron Scherer, 11450 Darlene Rd., Winfield, BC, V4V 1Y4, (250) 766-0566, rscherer@awinc.com

Editor: Laird Bowie

Ottawa Centre

Centre Mailing Address: P.O. Box 33012, 1974 Baseline Rd, Nepean, Ontario, K2C 0E0

Centre Email: Jane_Lund@inet.hwc.ca

Centre Web Site: www.conveyor.com/rasc

President: Richard Wagner, 1696 Teakdale Ave., Gloucester, Ont., K1C 6M4

Vice-Pres.: Alan Hildebrand, 146A 4th Ave., Ottawa, Ont., K1S 2L4

Secretary: Jane Lund, 191 Wilshire Ave., Ottawa, Ont., K2C 0E6

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Past President: Robert Dick, 1855 Wembley Ave, Ottawa, Ont., K2A 1A6

National Council Representatives: Richard Wagner, Alan Hildebrand

Quebec Centre

Centre Mailing Address:, 2000 boul Montmorency, Québec, Qc, G1J 5E7

Centre Email: cdrolet@globetrotter.qc.ca

Centre Web Site: <http://www2.zone.ca:80/~marcelf/srac.htm> (Warning the sign before marcelf is a tilde not a circumflex accent!)

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Regina Centre

Centre Mailing Address: c/o Ross Parker, 2667 Rothwell St., Regina, SK, S4N 2E1
President: Steve Szuta, #10 - 69 Kleisinger Cres., Regina, SK, S4R 6Z4 306-949-1816
Vice President: Ed Matheson, 411 College Ave., Regina, SK, S4N 0X1, 301-352-2378
Secretary: Ross Parker, 2667 Rothwell St., Regina, SK, S4N 2E1 306-565-0980
Treasurer: Glen Gunther, 2711 Assiniboine Ave., Regina, SK, S4N 1C7 306-586-7438
Nat Council Rep: Ray Chomos, 1675 Shattuck Bay, Regina SK, S4X 4G6 306-543-4722

St. John's Centre

Centre Mailing Address: c/o 206 Frecker Drive, St John's, NF, A1E 5H9
Centre Email:,
Centre Web Site: <http://www.infonet.st-johns.nf.ca/providers/rasc/rasc.html>
President: Brian Payton, bpayton@morgan.ucs.mun.ca
Vice President: Jack Cocker
Past President: Fred Smith, frsmith@morgan.ucs.mun.ca
Secretary: Dave Bourgeois, dbourgeo@thezone.net
Treasurer: Ian Gorner, mlryan@calvin.stemnet.nf.ca
Observing Chairman: Chris Stevens, csteven@kelvin.physics.mun.ca
Nat Council Rep: Garry Dymond, dymond@lands.dnr.gov.nf.ca
Librarian: Phil MacAusland, pjam@morgan.ucs.mun.ca
Newsletter Editors: Randy Dodge, randy@morgan.ucs.mun.ca; Paul Piercey, p.piercey@thezone.net
Webmaster: Mike Crawford, crawford@kelvin.physics.mun.ca

Sarnia Centre

Centre Mailing Address: Sarnia Centre c/o Alice Lester, 1091 Emily St, Mooretown, Ont, N0N 1H0
Centre Email: jselinge@ebtech.net
President: Alice Lester, 1091 Emily St Mooretown, Ont N0N 1H0
Vice-President: Zdenko Saroch 371 Cameron St. Sarnia, N7T 4B7
Treasurer: Brendan Fleming, 203 1/2 Water Street Sarnia, Ont, N7T 5T4
Secretary: Jim Selinger, jselinge@ebtech.net, #309 - 160 George St, Sarnia, Ont, N7T 7V4

Saskatoon Centre

Centre Mailing Address: P.O. Box 317, RPO University, Saskatoon, SK, S7N 4J8

Centre Email: huziak@SEDSystems.ca

Centre Web Site: <http://maya.usask.ca/~sarty/rasc/rasc.html>

Honorary President: J. E. Kennedy, 1902 - 315 -5th Avenue N, Saskatoon, SK, S7K 5Z8, (306)374-4614

President: Richard Huziak, 709 - 6th Avenue N, Saskatoon, SK, S7K 2S8, (306) 665-3392, huziak@SEDSystems.ca

Vice-president: Erich Keser, 405 Albert Ave., Saskatoon, SK, S7N 1G2, (306) 374-4262, keser@duke.usask.ca

Secretary: Allan Hartridge, #10 Poplar Rd, Riverside Est. Saskatoon, SK, S7T 1A1, (306)373-0034, ahartrid@eagle.wbm.ca

Treasurer: Mike Williams, 1514 Laura Ave., Saskatoon, SK, S7N 2S3, (306) 668-4365, mwilliams@sk.sympatico.ca

National Council Rep: Gordon Sarty, 629 - 9th Street East, Saskatoon, SK, S7H 0M4, (306)665-6448, sarty@maya.usask.ca

Observing Coordinator: Darrell Chatfield, 330 Guelph Cr., Saskatoon, SK, S7H 4S9, (306)374-9278

Activities Coordinator: Brian Friesen, 314 Johnson Cr., Saskatoon, SK, S7L 5P9, (306) 384-2963, bfriesen@eagle.wbm.ca

Newsletter Co-editor:, Sandy Ferguson, Suite 11, 238 Main St., Saskatoon, SK S7N 0B5, (306)931-3184

Newsletter Co-editor: Erich Keser, 405 Albert Ave., Saskatoon, SK, S7N 1G2, (306) 374-4262, keser@duke.usask.ca

Librarian: Sandy Ferguson, Suite 11, 238 Main St., Saskatoon, SK S7N 0B5, (306) 931-3184

Membership Coordinator: Kim Mysyk, 410 Smoothstone Cres., Saskatoon, SK, S7J 4S9, (306)374-2485, kmysyk@webster.sk.ca

Fundraising Coordinator: Gordon Sarty, 629 - 9th Street East, Saskatoon, SK, S7H 0M4, (306)665-6448, sarty@maya.usask.ca

Councillor: Garry Brett, 522 Devonshire Cr., Saskatoon, SK, S7L 5W1, (306) 384-1807, gbrett@webster.sk.ca

Councillor: Kirt R. Headley, 227 Meilicke Road, Saskatoon, SK, S7K 5E6, (306) 683-0251

Councillor: Bill Hydromako, 135 Manning Cr., Saskatoon, SK, S7L 6J3, (306) 384-4781, hydromako@SEDSystems.ca

Councillor: Merlyn Melby, 1614 Argyle St., Saskatoon, SK, S7H 2W7, (306) 374-3765

Councillor: Jim Young, 1422 - 11th Street E, Saskatoon, SK, S7H 0G6, (306) 343-0971

Toronto Centre

Centre Mailing Address: c/o Ontario Science Centre, Programs Branch, 770 Don Mills Rd, Don Mills, M3C 1T3

Centre Email: skerratt@idirect.com

Centre Web Site: <http://durham.durhamc.on.ca/ras/centre1.html>

Honorary President: Dr. Ernest Seaquist, David Dunlap Observatory, Box 360, Richmond Hill, ON, L4C 4Y6, B:905-884-2112 seaquist@astro.utoronto.ca

President: Mary Anne Harrington, 118 Wolfrey Avenue, Toronto, ON, M4K 1L3, B: 416-340-3619

1st Vice President:, Gordon Skerratt, 49 Amherst Avenue, Toronto, ON M6E 1Z2, R/F: 416-658-7027, skerratt@idirect.com

2nd Vice President: Ivan Semeniuk, Ontario Science Centre, 770 Don Mills Road, Don Mills, ON, M3C 1T3, R: 416-469-1423, ivans@osc.on.ca

Secretary: Tony Horvatin, 8 Mountview Avenue, Toronto, ON, M6P 2L3, R: 416-763-4339

Treasurer: Dr. B. Ralph Chou, 5190 Mississauga Road, Mississauga, ON L5M 4Z2,
R: 905-567-8694, bchou@sciborg.uwaterloo.ca

Recorder: Tim Mullings, 403-2070, Camilla Road, Mississauga, ON, L5A 2J7, R: 905-896-8303

Past President: J. Randy Attwood, 4348 Dallas Court, Mississauga, ON, L4W 4G7,
R: 905-624-4629, attwood@istar.ca

Honorary Councillor: Fred Troyer, 1703 - 2330 Bridletowne Circle, Scarborough, ON,
M1W 3P6, R: 416-869-4471,

Councillor/ Memb. Sec: Brian Cheaney, 50 Jeanette Place, Brampton, ON, L6S 3H6,
R: 905-792-6792, bcheaney@globedirect.com

Councillor/SCOPE Ed: Mike Cook, 856 Bennett Court, Oshawa, ON, L1K 1V2,
R: 905-728-5605, mikecook@idirect.com

Councillor/Public Ed: John Ginder, 2459 Colter Court, Mississauga, ON, L5L 3K7,
R: 905-607-3123, john@hge.com

Councillor: David Hanson, 165 Dixon Road, Unit 73, Toronto, ON, M9P 3T9,
R: 416-481-4593, davehan@io.org

Councillor: Robert May, 3 Ravine Drive, Scarborough, ON, M1M 2Y3, R: 416-265-4037

Councillor/Memb. Nights: Guy Nason, 5 Abbotsford Road, North York, ON, M2N 2P6,
R: 416-222-4814, Guy_Nason@tvo.org,

Councillor/Optical Wkshp: Michael Nunns, 2308 - 77 Gerrard Street West, Toronto, ON,
M5G 2A1, R:416-591-3994,

Councillor: Robert Taylor, 183 Shaver Avenue North, Islington, ON, M9B 4N9,
R: 416-622-9628, rtaylor@inforamp.com

Councillor: Kirsten Vanstone

National Council Representatives: Robert May, Gordon Skerratt, Michael Nunns, Frederic Troyer

Thunder Bay Centre

Centre Mailing Address: 214 Dennis St. Thunder Bay ON., P7B 5H8

Centre Email: dgalley@mail.tbaytel.net

President: John Bakkelund, 426 s. Franklin St. Thunder Bay ON. P7E1R4 807-622-9806

V. President: Ted Bronson, 286 Trinity Cres. Th. Bay ON. P7C 5V6 807-475-3406

Secretary: Nadia Roy, RR#5, Poleline Rd. Th. Bay ON, P7C 5M9 807-935-2758

Treasurer: David Galley, 214 Dennis St. Thunder Bay ON., P7B 5H8, Home 807-767-8388,
Work 800-457-8666, Toll Free 807-343-7973

Vancouver Centre

Centre Mailing Address: c/o Gordon Southam Observatory, 1100 Chestnut Street,
Vancouver, BC, V6J 3J9

Centre Email: ddodge@pacific-space-centre.bc.ca

Centre Web Site: <http://pacific-space-centre.bc.ca/rasc.html>

President: Ken Henrikson, 23996 Fern Cr, Maple Ridge, BC, V2X 7E7, 604-463-5320

Vice-President: Jo Yearsley, 16467 Middle Beach Rd, White Rock, BC, V4B 5A8, 604-531-7085

Secretary: Bob Parry, #23-3230 Sunnyside Rd, Anmore, BC, V3H 4Y2, 604-469-0524

Treasurer: Klaus Michel, 600 Beach Ave McDonald 2003, Vancouver, BC, V7K 1X4,
604-682-1562

Librarian: Usman Majeed, 4125 Blenheim St., Vancouver, BC, V6L 2Z3, 604-739-9729

National Rep: Duncan Munro, 7511 Turner St, Mission, BC, V2V 2Z2 , 604-826-9523

Telescope Dir: John Sherrett, 206-131 W 6 St, North Vancouver, BC, V7M 1K5, 604-987-1433
P.R. Director: Angela Squires, 3567 Blenheim, Vancouver, BC, V7J 2N4, 604-734-9726
Nova Editor: Len Rhind, 16332 78A Ave, Surrey, BC, V3S 6X1, 604-597-2479
Councillor: Doug Montgomery, 7847 127 St., Surrey, BC, V3W 4B2, 604-596-7058
Councillor: Glen Paling, 102-1450 Laburnum St., Vancouver, BC, V6J 3W3, 604-737-7505
Councillor: David Wilde, 604-986-4919

Victoria Centre

Centre Mailing Address: c/o Bill Almond, 354 Benhomer Drive, Victoria, BC, V9C 2C6
Centre Email: fwalmond@islandnet.com
Centre Web Site: <http://freenet.victoria.bc.ca/rasc/rascvic.html>
President: Bill Almond, 354 Benhomer Drive, Victoria, BC, V9C 2C6, 250-478-6718, fwalmond@islandnet.com
Vice-President: Sandra Barta, 277 Plowright Road, Victoria, BC, V9B 1P4, 250-479-0259, sbarta@pinc.com
Treasurer: Frank B. Jones, 247 Denison Road, Victoria, BC, V8S 4K2, 250 598-1855, frank_jones@bc.sympatico.ca
Secretary: David Lee, 764 Mapleton Place, Victoria, B.C. V8Z 3S2, 250-479-5187, David_Lee@bc.sympatico.ca
Joint Skynews Editors: David Luttmann, 1115 Princess Avenue, Victoria, BC, V8T 1L2, 250-920-0166, luttman@ibm.net; Scott Roberts, 211 Kamloops Avenue, Victoria, BC, V8Z 1W6, 250-727-3349, roberts@dao.nrc.ca
Librarian and Director of Telescopes: Sid Sidhu, 1642 Davies Road RR6, Victoria, BC, V9E 1E6, 250-391-0540.
Recorder: Keith Rawcliffe, 10 Conard Street, Victoria, BC, V8Z 5G2, 250 479-8066, us299@freenet.victoria.ca
National Representative: Gareth Shearman, 1216 Clovelley Terrace, Victoria, BC, V8P 1V6, 250-385-4302, freenet.victoria.bc.ca
Past President: Don Moffatt, 303-1010 McKenzie Avenue, Victoria, BC, V8X 4B2, 250-363-0012, moffatt@dao.nrc.ca
Honorary President: Dr. John Climenhaga, 2450 Sutton Road, Victoria, BC, V8N 1J2, 250 477-1403.

Windsor Centre

Centre Mailing Address: c/o Frank J. Shepley, 344 South Middle Rd, RR #2, Maidstone, ON, N0R 1K0
Centre Email: fshepley@wincom.net
Centre Web Site: <http://www.wincom.net/rasc>
Honourary President: Dr. William Baylis, University Of Windsor, baylis@uwindsor.ca
Past President: Tim Bennett, 13003 Pinkerton Side Rd., Essex, Ont, 776-8901, N8M 2X6
President: Susan Sawyer-Beaulieu, 1112 Coachwood Pl., LaSalle, Ont, 972-5516, N9H 2G3, beaulieu@MNSi.Net
Vice President: ohn McDermott, 1758 Marentette, Windsor, Ont, 253-0407, N8X 4E6
Secretary: C. Joady, Ulrich 5450 Haig, Windsor, Ont, 945-3132, N8T 1K9
Treasurer: Frank J., Shepley, 344 South Middle Rd, R.R. #2, Maidstone, Ont, 723-2389, N0R 1K0, fshepley@wincom.net
Recorder: David Marchand, 1460 Westminster Ave, Windsor, Ont, 948-5930, N8T 1W9

Dir. of Education: Randy Groundwater, 3400 Askin, Windsor, Ont, 969-8552, N9E 3J7
Librarian: Robert Hastings-Trew, 1704 Chilver Rd, Windsor, Ont, 252-0847, N8W 3T6
Dir. of Observations: Steve Pellarin, 3140 Parkwood, Windsor, Ont, 966-0713, N8W 2K4
Newsletter Editor: Frank J., Shepley (see above)

Winnipeg Centre

Centre Mailing Address: Room 110, St. Paul's College, 430 Dysart Road, Winnipeg, MB, R3T 2M6

Centre Email: jander@ccu.umanitoba.ca

Centre Web Site: <http://www.pangea.ca/~neff/rasc/>

President: Jay Anderson, 189 Kingsway Avenue, Winnipeg, MB, R3M 0G4, 204 474-1485

First Vice President: Ken Noesgaard, 27 Prescott Road, Winnipeg, MB, R3T 3X4,
204 269-8888

Second Vice President: Kevin Black, 26 Camelot Court, Winnipeg, MB, R2C 0Z7,
204-224-0182

Treasurer: Chris Brown, 183 Canora Street, Winnipeg, R3G 1T1, 204 775-6392

Past President: Stan Runge, 35 Cunard Place, Winnipeg, MB, R3T 5M1, 204-261-9984

Secretary: Crandell Overton, 466 Air Force Way, Winnipeg, MB, R3J 2L1, 204-832-6639

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Robert Venor (Montreal)*

Abbe Alphonse Tardif (Quebec)

Chant Medal

David Lane (Halifax)

The Plaskett Medal

Dr. Gordon Squires (Toronto)

Toronto Centre Gold Medal

Haryadi Christianto

Ken Chilton Prize

Raymond Thompson (Toronto)

* deceased

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Rose-Marie Ekland - Edmonton Centre
C.S. Tony Gardner - Edmonton Centre
Peter R. Smith - Edmonton Centre
Peter Dawes - London Centre
Kenneth Davey - Toronto Centre

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Brian Cheaney - Toronto Centre
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NGC Certificate

David J. Lane - Halifax Centre
Kevin Black - Winnipeg Centre

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E.G. Burnham (Toronto, 25 years)
Thomas Clarke (Toronto, 25 years)
Terence Dickinson (Toronto, 25 years)
D.A. Haley (Toronto, 25 years)
E.L. Houston (Toronto, 25 years)
Kimmo A. Innanen (Toronto, 25 years)
G. Allan Pengelly (Toronto, 25 years)
Kim Sprague (Toronto, 25 years)
Susan Sawyer-Beaulieu (Windsor, 5 years)
Ralph Fraser (Halifax, 5 years)

Robert Doran (Niagara, 5 years)
Len Chester (Toronto, 25 years)
Francis Dawson (Toronto, 25 years)
P. Ewington (Toronto, 25 years)
Kenneth C. Heaton (Toronto, 25 years)
D.A. Hyslop (Toronto, 25 years)
Herbert A. Lange (Toronto, 25 years)
B. Ramsay (Toronto, 25 years)
David Marchand (Windsor, 5 years)
Frank Shepley (Windsor, 5 years)
Shawn Mitchell (Halifax, 5 years)

RASC Service Award

The Service Award was established in 1959 and on recommendations of a special committee of the National Council, this bronze plaque is 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. For the names of award winners before 1990 please refer to page 58 of the book "*LOOKING UP - A History of the RASC*" by Peter Broughton (1994) available from the RASC National Office.

| | | |
|------|-------------------------------|-------------------------------------|
| 1990 | Mary Grey (Ottawa)* | |
| 1991 | Don Hladiuk (Calgary) | Ian McGregor (Toronto) |
| 1992 | J.M. Frechette (Quebec) | Michael Watson (Unattached, Canada) |
| 1993 | Eric Clinton (London) | David Tindall (Halifax) |
| 1994 | Randy Dodge (St. John's) | Gary Dymond (St. John's) |
| | Mel Rankin (Edmonton) | |
| 1995 | Ron Gasbarini (Niagara) | Patrick Kelly (Halifax) |
| 1996 | Sidney Lee (Calgary) | Robert Venor (Montreal)* |
| | Abbe Alphonse Tardif (Quebec) | |

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.

* deceased

Below is a list of former winners of the Chant Medal. For the names of award winners before 1967 please refer to page 60 of the book "LOOKING UP - A History of the RASC" by Peter Broughton (1994) available from the RASC National Office.

| | | | |
|------|---------------------------|------|------------------------------|
| 1967 | R.R. Thompson (Toronto) | 1979 | Rolf G. Meier (Ottawa) |
| 1980 | David Levy (Montreal) | 1986 | Warren Morrison (Kingston) |
| 1987 | Damien Lemay (Quebec) | 1988 | Chris Spratt (Victoria) |
| 1989 | Jack B. Newton (Victoria) | 1993 | Mary Lou Whitehorn (Halifax) |
| 1995 | Paul Boltwood (Ottawa) | 1996 | David Lane (Halifax) |

Gold Medal/Gold Medal of the Toronto Centre

The Gold Medal of the Society was established in 1905 as an encouragement to the study of astronomy. It is awarded to the graduating fourth year University of Toronto Arts & Science student who has both an "A" standing in his or her fourth year and the highest mark in the two full courses and two half courses in astronomy which are contained in the Astronomy specialist program, provided the average is over 80%. If no student satisfies this criteria, the award is not made. In 1988 The Gold Medal of the RASC was replaced by the Gold Medal of the Toronto Centre. The criteria for winning did not change. Below is a list of former winners of the Gold Medal. For the names of award winners before 1980 please refer to page 56 of the book "LOOKING UP - A History of the RASC" by Peter Broughton (1994) available from the RASC National Office.

| | | | |
|------|-------------------|------|--------------|
| 1981 | T.C. Box | 1982 | M.J. Gaspar |
| 1984 | Glenn D. Starkman | 1985 | G.A. Drukier |
| 1987 | Man Hoi Lee | | |

Toronto Gold Medal

| | | | |
|------|---------------------|------|----------------------|
| 1988 | W. Barry Sloan | 1989 | Douglas Johnstone |
| 1990 | Shauna Sallmen | 1991 | Ian Walker |
| 1993 | Jason Harlow | 1995 | Jefferey J. Bezzaire |
| 1996 | Haryadi Christianto | | |

The Plaskett Medal

Canada's two national astronomical societies, The Royal Astronomical Society of Canada and the Canadian Astronomical Society have joined together in the sponsorship of a new award for students of astronomy at Canadian universities. The joint RASC/CAS award entitled The Plaskett medal is awarded in recognition of the pivotal role played by John Stanley plaskett in the establishment of astrophysical research in Canada. An award is made annually 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.

| | |
|------|---------------------------------|
| 1988 | Dr. R. Gray (Toronto) |
| 1989 | Dr. Peter Leonard (Toronto) |
| 1991 | Dr. Paul Charbonneau (Montreal) |
| 1992 | Dr. Eric Poisson (Alberta) |
| 1993 | Dr. Paul Brassard (Montreal) |
| 1994 | Dr. Grant Hill (Montreal) |
| 1995 | Dr. Michael Richer |
| 1996 | Dr. Gordon Squires (Toronto) |

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 during the year.

| | | | |
|------|----------------------------|------|----------------------------------|
| 1978 | Jack Newton (Victoria) | 1979 | Warren Morrison (Kingston) |
| 1981 | C. McCaw (Vancouver) | 1983 | Chris Spratt (Victoria) |
| 1988 | P. Teece (Victoria) | 1989 | L. Kemble (Calgary) |
| 1990 | Doug George (Ottawa) | 1995 | Paul Gray & David Lane (Halifax) |
| 1996 | Raymond Thompson (Toronto) | | |

Simon Newcomb Award

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

| | |
|------|--|
| 1979 | William J. Calnen (Halifax) |
| 1981 | Christopher Rutkowski (Winnipeg) |
| 1982 | Phil Mozel (Toronto) |
| 1985 | Donald F. Trombino (Unattached, United States) |
| 1986 | David Chapman (Halifax) |
| 1987 | Peter Jedicke (London) |
| 1994 | Michael S.F. Watson (Unattached, Canada) |

Below are lists of former Presidents, Secretaries and Honorary Presidents of the RASC. For the names of National Executive members before 1990 please refer to Chapter 4 of the book "LOOKING UP - A History of the RASC" by Peter Broughton (1994) available from the RASC National Office.

Presidents of the Royal Astronomical Society of Canada

| | | | |
|-----------|--------------|-----------|--------------------|
| 1990-1992 | Damien Lemay | 1992-1994 | R. Peter Broughton |
| 1994-1996 | Doug Hube | 1996- | Doug George |

Secretaries of the Royal Astronomical Society of Canada

| | | | |
|-----------|-----------------|-----------|----------------|
| 1987-1993 | D.A. Tindall | 1993-1996 | Randall Brooks |
| 1997- | Raymond Auclair | | |

Honorary Presidents of the RASC

| | | | |
|-----------|------------------|-----------|------------------|
| 1983-1988 | Arthur Covington | 1988-1993 | Dr. Ian Halliday |
| 1994-1998 | Dr. Alan Batten | | |

