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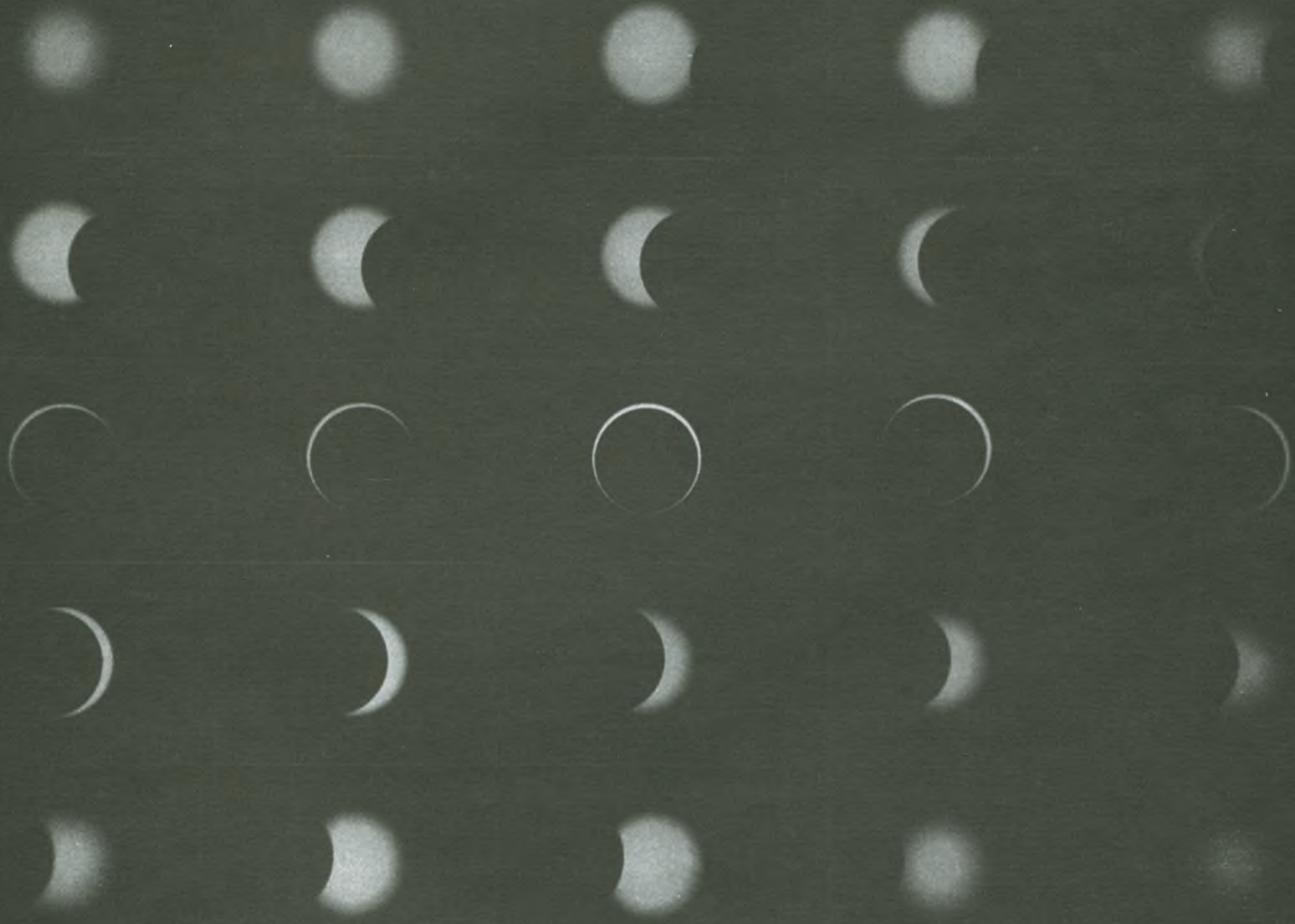
Volume 5  
Number 2

The Royal  
Astronomical Society  
of Canada

# BULLETIN

La Société  
Royale d'Astronomie  
du Canada

Supplement to Volume 89/2 of the Journal of the Royal Astronomical Society of Canada



A composite photo of the May 10th annular eclipse. Chris Baldock took this series from his front yard in London, Ontario, which was on the eclipse's centreline. He used an 8" SCT working at f/6.3 and equipped with a Thousand Oaks Type 2 solar filter. The pictures were taken on Ektachrome 64X Color Reversal Film using a 35 mm camera mounted at prime focus. Pictures were taken every ten minutes (more frequently during mid-eclipse) starting at 11:37 AM local time and ending at 3:08 PM. Shutter speeds ranged from 1/1000 of a second during the partial phases to 1/250 of a second during annularity.

1994

*Annual Report*

1994



## BULLETIN

is a publication of the Royal Astronomical Society of Canada and is distributed together with the society's *Journal*. It contains articles on current activities of the RASC and its centres across Canada, as well as articles from members and non-members which are of general interest to members of the society. Inquiries about the society should be directed to its national office at 136 Dupont Street, Toronto, Ontario, Canada M5R 1V2 (416) 924-7973.

**Cover Picture:** Willistead Manor. This was a former meeting place of the Windsor Centre when it was Willistead Library.

**Editor:** Patrick M. Kelly, RR#2 Falmouth, Nova Scotia, Canada B0P 1L0  
E-mail Address: pkelly@tuns.ca  
FAX: (902) 423-6672  
Phone: (902) 420-7604(w), (902) 798-3329(h)

**Editorial Staff:** Diane Brooks  
**Rédacteur pour les centres français:** Marc Gélinas, 11 Pierre-Ricard, N-D-Ile-Perrot, Québec, Canada J7V 8M6  
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**June issue deadline is May 15th.**

# *The Ruth Northcott Lecture* *Dr. Carolyn Shoemaker*

For the 1995 General Assembly of the RASC, hosted by the Windsor Centre, we are pleased to announce the attendance of Dr. Carolyn Shoemaker as the Ruth Northcott Lecturer, Sunday evening on July 2nd.

Born in Gallup, New Mexico, in 1929, Carolyn Shoemaker received her Bachelors and Masters degrees from Chico State College, California, in 1949 and 1950 respectively. Along with husband Eugene, she was awarded the Rittenhouse Medal from the Rittenhouse Astronomical Society in 1988. After receiving an honorary Doctorate of Science degree from Northern Arizona University in 1990, she and Eugene became Cloos Scholars at John Hopkins University, also in 1990.

Dr. Shoemaker's career has been both fascinating and eventful. Since 1980 she has served as a visiting scientist in the astrogeology branch of the United States Geological Survey. In 1989, she became an astronomy research professor at Northern Arizona University. In 1993 Dr. Shoemaker joined the staff of the Lowell Observatory. From 1981 to 1985 she also served as a research assistant at the California Institute of Technology.

Dr. Shoemaker has discovered thirty-two comets, including fifteen short-period comets of the Jupiter family and seventeen long-period comets, two of which are giant bodies that come no closer to the Sun than Jupiter's orbit. Working with her husband and David Levy, Dr. Shoemaker discovered Periodic Comet Shoemaker-Levy 9 in orbit around Jupiter in March of 1993.

Dr. Shoemaker is credited with the discovery of more than 800 asteroids, of which 162 bear numbers. Among the newly-discovered asteroids are forty-two Earth-approaching asteroids. She also developed an efficient stereoscopic technique for scanning plates taken with Palomar Observatory's 0.46 metre Schmidt camera, making it twice as fast to image the sky. This was also the instrument used to discover Comet Shoemaker-Levy 9.

Turning her talents to investigations of our own planet, Dr. Shoemaker has worked in collaboration with her husband to investigate meteorite craters and ancient impact structures in Australia. She has discovered the meteorites at Veevers craters and also the impactites at Wolfe Creek Crater.

Dr. Shoemaker's timely talk, entitled "Comet Impact—Lessons Learned", will bring all in attendance up to speed with the immediate aftermath of Comet Shoemaker-Levy 9's spectacular crash into Jupiter. It is sure to be a high point of this summer's exciting Windsor General Assembly.

<b>Dr. V.A. Ambartsumian (C.I.S.)</b>	<b>Dr. Stephen W. Hawking (United Kingdom)</b>
<b>Dr. R. B. Baldwin (United States)</b>	<b>Dr. W. Iwanowska (Poland)</b>
<b>Dr. F. M. Bateson (New Zealand)</b>	<b>Dr. Patrick Moore (United Kingdom)</b>
<b>Dr. R. Hanbury Brown (Australia)</b>	<b>Dr. Grote Reber (Australia)</b>
<b>Dr. A. Dollfus (France)</b>	<b>Dr. A.R. Sandage (United States)</b>
<b>Rev. Robert Evans (Australia)</b>	<b>Dr. Martin Schwarzschild (United States)</b>
<b>Dr. Owen Gingerich (United States)</b>	<b>Dr. A. Unsold (Germany)</b>
<b>Prof. H.C. van de Hulst (Netherlands)</b>	

**Honorary  
Members**

**T**radition is a common word to use when discussing an organization which has existed for more than a century. For some, 'tradition' is a positive term to be used when discussing that which is good and tried-and-true and which deserves to continue to be part of the society. For others, 'tradition' may be used derisively when discussing something which is perceived to be old, stale, and no longer relevant. In the few years that I have had the honour to serve on the national council, I have seen that word applied *simultaneously* in both the positive and negative senses to a *single* issue! Such is the diversity of opinion within our society, a diversity which reflects the wide range of ages, educational experiences, skills, interests and tastes of our members. It is that diversity which keeps the society vital... and which makes for interesting debates at national council meetings!

Every tradition has to begin somewhere and sometime, and the beginning of one tradition usually means the end of another. One of the society's longest standing traditions has been to keep its members—and many non-members—apprised of society activities and, more generally, of astronomical developments through its publications. In his annual report as president for 1993, Peter Broughton made reference to the first steps which had been taken toward a major restructuring of the society's publications. That process continues, and I can easily imagine that by this time next year—subject to approval by a majority of the members—we may have passed the final step, and my second and final report as president may appear in a new publication which has a new style, format and name.

Soon after reading this message, you can expect to receive a mock-up of the proposed new publication. As a member of the society, you have the responsibility to examine the proposal very carefully, giving consideration both to *your* particular needs and interests and to those of the broader membership with *their* diverse needs and interests. It is my intention—and I believe that of most members of the national council—that we not proceed with a major change in the publications unless there is clear evidence that such change has the support of a majority of the members. If a new publication is introduced to replace the *Journal* and the **BULLETIN**, members of the RASC will have yet another responsibility, and one which will be on-going.

As it is currently conceived, the new publication will require far more—and more substantial—contributions from you. The RASC may have to be much less dependent on the community of professional astronomers, and more dependent on amateur astronomers to provide the manuscripts, articles, photographs, reviews, etc., required if the publication is to remain viable. Viable it must be: traditionally the publications have been the means whereby members maintain contact with one another, sharing their knowledge and expertise, encouraging one another, and doing the myriad of things which make the RASC a *national* society. Even with the growing use of the Internet and e-mail, the publications remain the most efficient way to 'reach' the largest audience.

In 1994 we did much more than debate publications! Many of us enjoyed the generous hospitality and good humour of the St. John's Centre which hosted the GA. We saw the financial affairs of the society pass from the capable hands of Terry Hicks to the capable hands of Rajiv Gupta, and we can thank both for guiding the society to the secure financial state in which it finds itself. As she has done for more than two decades, Rosemary Freeman has managed—often under difficult circumstances—to keep the daily affairs of the national office under control... and the under-signed on an even keel. Changes to travel policy have been developed which ought to result in more centre representatives attending national council meetings. As you read through the remainder of this annual report note the variety of centre activities, and the large number of individuals who have contributed time, effort, money and thought to fulfilling the needs and goals of your society. You will find much evidence to support my contention that the RASC is alive and well, albeit with an occasional cough or hiccup, for which the long-term cure is a clear sky, a focused telescope, and a youngster enjoying, for the first time, the sights which you have come to love and love to share.

Finally, I wish to thank and congratulate my predecessor in this office, Peter Broughton. Peter guided the society through two difficult years, and did so with skill and courtesy to all. In addition, he completed *Looking Up*, the first full history of the society, a book which is deserving of praise for the elegance of its writing and the excitement of the story it tells.

**Douglas P. Hube, National President**

**President's Report**

# Secretary's Report

The year just past has been eventful, and in many ways, very successful for the society and for our twenty-two centres—from the plethora of summer star parties, to the country wide activities of Astronomy Day, to a great General Assembly in St. John's. As you read the centre reports that follow, you will notice that each has its own personality reflected in their activities. Probably more than ever before, you will see a growth in observing activities [I am repeatedly impressed by the quality of photographs taken by members with "amateur" sized instruments—15 years ago, professionals would have died to have images of this quality!]. However, you will also notice that the number of speakers visiting between centres has also increased. One of the society's strengths continues to be the fact that we have so many members capable and willing to share their knowledge. Not only is that shared at the telescope but members continue to want to hear about new discoveries of a more technical and esoteric nature through centre lectures.

Several members of the society have gained personal recognition for their astronomical work. These include Drs. Sidney van den Bergh and George Volkoff who were appointed Officers of the Order of Canada. Dr. Grant Hill (Univ. of Western Ontario) was awarded the Plaskett Medal awarded jointly with the Canadian Astronomical Society for his PhD thesis. He presented the keynote lecture at the banquet of this year's GA ("What's Normal Among the A-Type Stars", *Journal*, Dec. p.359). Michael Watson (unattached, Toronto) was awarded the Simon Newcomb Award for his contribution on "Photography of the May 10th Solar Eclipse" (*BULLETIN*, April p.3). Also recognized for their long term contributions to the society and its objectives were Mel Rankin (Edmonton), and Randy Dodge and Gary Dymond (both of St. John's). They received the society's Service Award. Eighty-six members have previously received this recognition since its inception in 1959. Asteroids have also been named for RASC members Dr. Paul W. Chodas, Terence Dickinson and Arthur Covington (a past honorary president of the society).

A concern held by many centres and by the national council is the gradual decline in membership of the society since the high following the last passage of Comet Halley in 1986 (see table below). One naturally suspects the economy was the primary culprit in 1994 but the council also recognizes other possible causes. It has begun a number of initiatives to address the concerns expressed by members through the survey carried out a couple of years ago, through centre executives and their council representatives and through the widening use of electronic communications. However, it falls on the front ranks of the society—the centres—to provide that face to face contact with each member. It is an objective of the society's executive to focus over the next year on those activities which will best support the work of the centres.

CENTRES	1994	1993	1992	1991		1994	1993	1992	1991
					Sarnia	10	17	11	8
					Saskatoon	52	42	35	43
Calgary	204	198	197	192	Thunder Bay	23	24	38	29
Edmonton	151	125	125	121	Toronto	805	807	855	921
Halifax	131	134	138	160	Vancouver	227	190	177	109
Hamilton	66	95	99	86	Victoria	113	127	129	127
Kingston	69	60	50	52	Windsor	48	45	41	46
Kitchener-Waterloo	25	25	25	24	Winnipeg	59	57	45	56
London	35	32	46	39					
C.F. de Montréal	12	25	36	35	UNATTACHED				
Montréal	109	114	110	99	Canada	233	243	268	269
Niagara	50	53	48	61	U.S.A.	234	240	258	291
Ottawa	228	235	243	258	Overseas	45	52	53	53
Québec	44	53	65	36	Honorary	15	15	15	14
Regina	19	19	21	29					
St. John's	36	35	38	34	TOTAL	3043	3062	3165	3192

On behalf of the national council, I wish to extend our thanks to all members of centres and of committees of the national council who have provided service to the benefit of the society and astronomy over the past year. Special thanks also go to Marie Fidler (who has, for many years, provided editorial services to the *Journal*'s editor as well as providing the "About our Authors" page) and to Dr. Roy Bishop (who has also decided to step down as editor of the *Journal*'s "Education Notes"). As always, our executive secretary, Rosemary Freeman, has provided admirable service to the society and its members. It is not easy being the first point of contact for so many centre secretaries and treasurers as well as members, but Rosemary is the key who knows just about everything about our operations. It may surprise you, but if she does not know you personally, she almost certainly does by name!

It is with regret that I must report the deaths of the following society members in 1994: Mr. Robert S. Ball (USA), Isabel J. Campbell (Toronto), Mr. J.P. Clarke (Calgary), Gordon Patterson (Saskatoon), Mr. David Rosenberg (USA), Ed Rystrom (Saskatoon) and Dolores Shepherd (Toronto).

Members who wish to communicate with the national office may do so via e-mail at [rasc@astro.utoronto.ca](mailto:rasc@astro.utoronto.ca) (urgent messages should not be forwarded by e-mail). If any member wishes to provide comments or suggestions to the society's executive or the national council, they may do so through the national secretary ([brooks@fox.nstn.ca](mailto:brooks@fox.nstn.ca) or [brooks@husky1.stmarys.ca](mailto:brooks@husky1.stmarys.ca)).

**Randall Brooks, National Secretary**

# N

ine general meetings were held in 1994:

- January 20 **Black Hole Theories** by Dr. Hubble
- February 17 **The Graze Occultation Expedition** by Russ Sampson; Tribute to Walter Stillwell
- March 17 **The History of the RASC** by Peter Broughton, National President; Alpha Milk barcode fundraising
- April 21 Members night; various short topics
- May 19 **Binary Stars and Globular Clusters** by Jason McVean
- June 18 Members night held at Wilson Coulee Observatory; barbecue, various topics including Phil Johnson's presentation on his Star Trackers
- September 15 **Interstellar Dust and its Effect on Observational Astronomy and Cosmology** by Jenna Firmin
- October 20 Members night; more slide treats from John Mirtle, Alan Dyer shared his auroral slides and Susan Cannon showed us her first astrophoto shots, including a stunning capture of a meteor on film
- November 17 Annual Elections, and eclipse tour slides

# Calgary

As in past years, the Calgary Centre continues to offer our introduction to astronomy courses, with an additional advanced course, teachers' workshops and classroom visits. We also continue to operate the 327-STAR information line.

Our hard-working volunteers were kept busy on many public and club projects throughout 1994. The master builders and craftsmen completed our 12.5-inch telescope refits in time for it to see first cloud at the April 16th Astronomy Day event at Fish Creek Park. The 17.5-inch telescope will be ready for first light in the spring of 1995.

Our club's observatory saw some care and attention this year. With new siding, paint, roof repairs and landscaping, the Wilson Coulee Observatory is snug and ready for another season's use. The Calgary Centre has also invested time, money and effort into developing our new dark sky location at the Eccles Ranch, outside of Caroline. This is a good, dark location that will see further development in 1995.

Our light pollution committee was hard at work again this year, expanding our influence to include Banff, and the Camrose corridor. We presented awards to five companies that have shown responsible lighting practices in their designs and the centre has already chosen two recipients for the 1994 awards.

The Calgary Centre's membership has swelled during 1994 to its present 228 strong. Our youth group continues to grow in number and is becoming more active with projects and events. The youth group members completed their 8" telescope and proudly displays it at all public events.

1994 was an exciting year for astronomers around the world and our club was involved in many public events in Calgary. Our annual star night in conjunction with Zoonival was held during a blizzard but was still a success. Astronomy Day, on April 16th, was also a great success with an approximate attendance of 1750 members of the public and thirty club scopes. Clouds did not dampen the spirit of the event and a beautiful auroral display could not have been better timed. The annular eclipse of May 10th was another successful public event with live television coverage at the Science Centre. Of course, the Jupiter impacts were the year's highlights. Volunteers manned their telescopes at the Science Centre for the duration, with good public attendance most evenings. Our annual star night, held on October 15th at Fish Creek Park, was again clouded out, but our slide show, star talks and photo displays made good substitutes for the public who did attend. Our annual star party at the Eccles Ranch was a general success, despite the rain and mud and next year will be better with more work done at the site.

We continue to be active in the community, providing volunteer support at the spring and fall home shows, at events sponsored by the Alberta Science Centre, and at other events that gave us an opportunity for public exposure. The Calgary Centre has plans to host astronomy events in 1995; to continue to support the Science Centre's events and to continue to work at providing information on the rewarding hobby of astronomy to the general public. Our 1994 eclipse tour, in conjunction with the Alberta Science Centre and Let's Talk Travel was a great success and plans are already underway for the 1995 eclipse tour.

Many thanks to our core of hardworking volunteers and especially to Ruth Lewis for her efforts during her term as president.

**Susan Yeo, Secretary**

**T**he Edmonton Centre is healthy and thriving. Thanks to president Sylvia Smith's leadership, a supportive council and its active members, the Edmonton Centre continued in 1994 to have a vibrant and dynamic year. Membership climbed from its usual level of about 135 to a club record of 150 members.

# Edmonton

**Meetings:** We are experiencing a very high ratio of membership participation. Eighty to ninety members are now regularly attending our monthly meetings. The format of our meetings may contribute to their success. The meetings balance levity with serious astronomy. Meetings are integrated with observers' group presentations, as well as beginners' talks on such topics as observing etiquette. An advisor for new members also makes new members feel welcome.

# Centre Reports

David Levy spoke in January at a public event which was jointly sponsored by this centre and the Edmonton Space and Sciences Centre. National president Peter Broughton was featured in March. David Routledge of the University of Alberta's electrical engineering department gave a talk on absolutely leading-edge radio astronomy research. In December, members Harold Jacobsen and Alister Ling gave presentations on their separate solar eclipse expeditions during November to Chile and Brazil respectively.

**Observing:** We are cursed at this latitude. Pervasive aurora contaminated our skies almost continuously since February '94. On over 80% of our observable nights at our site, you would hear unprintable mumblings of the dreaded "A-word". One September evening at our club dark site, the auroral arch appeared right on schedule, low on the horizon—the southern horizon! However, during the year observers were still able to track a potpourri of three comets and three supernovas as well as the new, large spot on Saturn.

The Shoemaker-Levy 9-Jupiter impact was, of course, the year's highlight. Many volunteer members coordinated their observing at the Edmonton Space and Sciences Centre observing deck. The highest single daily public attendance during the vigil saw 1 000 people taking in the event. One weekend evening saw twenty members' scopes in action.

Twenty Edmonton observers made the thirteen hour trek to Osoyoos, B.C. for the Mount Kobau Star Party. This is arguably Canada's premier serious observing event. Continuing a tradition, a number of Edmonton members received awards for telescope making and astrophotography.

**Other Highlights and Events:** All centre members were very pleased at the well-deserved recognition given to Mel and Betty Rankin at the 1994 GA at St. John's, where they received the RASC Service Award Medal.

The Alberta Star Party, jointly sponsored with the Calgary Centre, was held on the Labour Day weekend. It was staged at a new site, on a ranch near Caroline. With dark skies (when it was not raining) the site showed great future potential.

The year also saw the successful completion of the remaining casino-funded projects, proving that it is indeed fun to spend money (\$48,000 of it!). A spirit of cooperation and compromise resulted in projects or equipment that appealed to those interested in all facets of astronomy. Projects completed in 1994 included:

- The centre's award-winning portable deep-sky reflector received a major optical upgrade in October with the installation of a fine, new .45 metre f/4.3 primary mirror, made by Barry Arnold of Arnold Optics and Manufacturing of Sherwood Park.
- In August, a permanent display case promoting the activities of the Edmonton Centre was placed in the Edmonton Space and Sciences Centre. It is expected that this will raise our profile to the thousands of walk-through visitors.
- The Edmonton Centre continued to participate in the annual Edmonton regional science fair of which, with casino funds, it is a perpetual sponsor.

Under the guidance of Tyler Foster and a local cable company, the Edmonton Centre ventured into the public community broadcasting field. It co-produced its first twenty minute astronomy program aimed at the public. The topic of the segment was observing with binoculars.

Several members, including Randy Pakan and Alister Ling had articles or drawings published in popular astronomy magazines.

*Stardust*, our successful newsletter, marked its fortieth year of production. It is the product of our new desktop publishing computer, and especially of the artistic efforts of editor Randy Pakan.

**Amateur Telescope Making:** Edmonton continues to maintain its active tradition in constructing telescopes. These do not end up as closet scopes. Upon completion, almost all amateur telescope makers can actually be seen at the observing site with their instruments. Two exceptional new scopes topped the field. Hans Steidle crafted an exquisite, all-wood, laminated 25 cm reflector. Kari Kropf learned to weld aluminum so that he could complete his award-winning aluminum-tubed 31 cm Dobsonian.

**Awards:** Awards were presented by Sylvia Smith at the annual meeting on January 9th, 1995. The President's Award for service to the centre went to Frank Florian for his valuable, continuous background support through the Edmonton Space and Sciences Centre. The Angus Smith Award for amateur telescope making and design went jointly to Karl Kropf and Hans Steidel. Ben Gendre emerged as an accomplished astrophotographer and received the Astrophotographer of the Year Award. The Observer of the Year was awarded to a group—the members who volunteered at the observatory deck—and was accepted by Larry Wood, the observing deck coordinator. Major contributors included Don Brown, George Graham, Keith Janke, George Maher and Bruce McCurdy. Bruce McCurdy and Ben Gendre were formally awarded RASC Messier Certificates.

**Bob Drew, General Secretary**

With the previous year having been one in which we hosted the GA, it seemed that 1993 would be a tough act to follow. However, events both on the ground and in the sky ensured that this was not the case.

The Comet Shoemaker-Levy impact with Jupiter caused a lot of excitement. This was especially so, as Dave Lane, who has gained quite a reputation at NASA as a result of his Earth Centered Universe computer program, was able to get Hubble images almost as quickly as NASA downloaded them. They were then posted on an FTP site at Saint Mary's University and members kept it busy for the next few weeks. In addition, May 10th saw a beautiful clear day for the annular (not annual!) solar eclipse. Being on the centreline, there was a lot of media publicity and a large crowd gathered at Saint Mary's for free viewers (which disappeared as fast as they could be unpacked). No one who attended was disappointed, and the experience is sure to stay with all of the participants for the rest of their lives.

# Halifax

Quite a few members from the centre attended the GA in St. John's and everyone came back pleased with both the weather and the proceedings. For many, it was quite a change from the previous year's GA, as they did not have to do any of the work!

The long search for a permanent observing site for the centre appears to be finally coming to a close. The site, first suggested by Roy Bishop, is located in St. Croix, Hants County and is about 50 km from Halifax. The spot is located well inside a large tract of land owned by Minas Basin Pulp and Power and, thanks once again to Roy, a lease is about to be signed. Since this land is part of the watershed for the lake that provides hydro power to their paper plant, there is no worry of encroaching development. In addition, the southern sky looks across the uninhabited central region of Nova Scotia. Plans are already underway on the basic design and layout of the structure.

The centre continues to co-operate with the Nova Central Astronomy Club in Truro. Several of their members make it to almost every centre meeting, and the centre has provided speakers for several of their meetings. Several Halifax members are also actively involved in the Minas Astronomy Group (MAG), which started during the fall in Wolfville. Some meetings have had an attendance which has matched that at Halifax Centre meetings, and interest is remaining high.

We tried something new for NOVA EAST, this year, as it was held over the Thanksgiving weekend, instead of its usual time in late August. The idea had been brought up in the past, that the fall would give longer nights and the chance to see the winter sky with the bigger scopes. This was the first year since the suggestion was made that the Moon made it possible. The number of clear hours pleased everyone, including the hundreds who showed up for our public talks and observing sessions. Most found it to be an interesting change not to have to worry about the mosquitos!

The centre's library listing was updated, thanks to Shawn Mitchell, and use of the library seems to be increasing. Shawn also implemented a new check-out system for the books so that the popular ones get back when they are supposed to!

One feature which has become a mainstay of the regular meetings is the handbook talk. Each month a different section of the handbook is covered, You never know what is going to happen... For example, David Tindall covered the chapter on the brightest stars and showed how you could use the information to produce your own H-R diagram. A new period-luminosity relationship for Cepheids was discovered in the process, when it was found that almost all of the Cepheids listed have an absolute magnitude of -5.1 regardless of their period! Walter Zukauskas also noted that whereas the 1985 handbook listed 286 stars brighter than magnitude 3.55, the 1994 edition listed 314. Assuming an exponential growth, he predicted that, at least as far as constellations were concerned, light pollution might soon become irrelevant!

For those who missed the meetings, excellent write-ups of the proceedings appeared in NOVA NOTES, thanks to the small but dedicated band of qualified meeting reporters—i.e. those who had written reports in the past and could not move fast enough to avoid the pointing finger! In addition to the meeting reports, NOVA NOTES contained a wide variety of interesting articles. Joe Yurchesyn continues to write a detailed column for each issue on the sights to be seen in a constellation relevant to the time of the issue. These articles are now accompanied by a new format sky chart produced by Doug Pitcairn, which shows only the locations of the objects mentioned in the article.

The regular meetings for the year are shown below.

January 21	<b>Predicting Nova Scotia Weather</b> by Murray Forbes, Environment Canada
February 18	<b>Stellar Evolution as a Real-time Phenomenon</b> by Dr. David Turner, Saint Mary's University
March 18	<b>Computers in Astronomy</b> by Dr. David Clarke, Saint Mary's University
April 15	<b>The Peekskill Meteorite</b> by Dr. Bob Hawkes, Mount Alison University
May 13	Beginners' Night, held at the Halifax Planetarium
June 17	Annual Banquet
September 16	<b>The Current State of Engineering for Interstellar Travel: Spaceward Ho, Can We Go?</b> by Patrick Kelly
October 21	<b>ESTEC: The European Space Research and Technology Centre</b> by Mary Lou Whitehorne
November 18	Annual Meeting and Members' Night
December 16	<b>SOS: Solar Observation Station</b> by Heather Cameron

*Patrick Kelly, Secretary*

The Kingston Centre meets on the second Friday of each month in Room B201 of McIntosh-Cory Hall at Queen's University.

We have observing reports and this year enjoyed a variety of programs. They were as follows: **Outflow from Spiral Galaxies** by Dr. Judith Irwin; **The Art of Astronomy** by Peggy Torney, **Gravitational Lenses** by Gordon Taylor; **Slides from the GA** by Walter MacDonald; **Astronomy in Available Light Photography** by Cathy Hall; **Astronomy and Videography** by Rob Dick and Glen Ledrew of the Ottawa Centre; **The Expansion of Galaxies** by Dr. Richard Henrickson and **Modelling Creation: An Experimental Perspective** by Dieter Bruekner.

Members conducted an astronomy workshop and on members' night we viewed many interesting slides taken from the night sky and various star party weekends.

*Kingston*

*Centre Reports*

The centre basked in "reflected glory" when our honorary president, David Levy, co-discovered Comet Shoemaker-Levy 9. Congratulations are also due to Christine Kulyk for her work with the little commemorative pin, featuring the "string of pearls" nearing Jupiter. Congratulations also to Arthur Covington, a pioneer in radio astronomy, who had an asteroid named in his honour.

Walter MacDonald, who served as both centre president and as national council rep, gave us excellent reports of the national meetings. At this year's GA he became the national librarian. Membership awards were given to David Stokes, a former president and longtime member, and to Bill Broderick, our newsletter editor.

Kim Hay keeps our funds and books in order and is now looking after the national office promotional products. Kevin Kell, our editor of RASC-News-net, is in charge of our library and reminds us of overdue books.

An Astronomy Day display was held at a local mall. A public star party was also held. Many members shared their telescopes and enthusiasm with other groups. We went to Charleston Lake with Terry Dickinson; Leo Enright and Denise Sabatini visited Sandbanks Park and David Stokes visited members of a youth group at Bob's Lake.

Solar glasses were distributed for the May 10th eclipse and, in spite of scattered clouds, were used with success. Four members attended the General Assembly at St. John's, Newfoundland. A committee is actively making plans for Kingston to host a GA in 1997. Due to many interested people, our centre is alive and well.

**Ruth Hicks, Secretary**

1994 was a good year for the Kitchener-Waterloo Centre as we experienced a year full of activities. There were a number of exciting events carried out and many things to see throughout the year. Our monthly meetings were full of a variety of topics and reports of observing which provided something for everyone.

## Kitchener-Waterloo

The January meeting was an opportunity for the group members to hear ideas and suggestions from the new president, Jeff Collinson. He described the activities he hoped to see in the year to come, such as the addition of a club library and plans to view the May 10th solar eclipse. The main speaker at the meeting was Rob Lowles from ComDev who described in detail a NASA space telescope to be launched in the year 2000. On Saturday, January 15th, Jim Graham arranged the club's annual dinner at Angie's Kitchen in St. Agatha.

In February, the expected main speaker was unable to attend so the film "A Brief History of Time" was shown. At this meeting it was decided to supply a subscription to both *Astronomy* and *Sky & Telescope* magazines to the Waterloo Public Library. John Molson presented a book report on John Pierre Luminet's book "Black Holes". As well, John reported on his observing of solar activity.

At our March meeting Dexter Telenko was the main speaker and gave a talk on "The Eye as an Observing System". He explained how the eye and brain work together to create a system which is able to see very dim objects. Bernd Mueller gave a book report on "The Colours of the Galaxies".

In April, Gary Joclyn from ComDev described how satellites see in the infrared using optical systems. This meeting was also an opportunity for those who wanted to try mirror grinding to describe their progress. Clark McDonald displayed photographs of his mirror test results while Jim Graham showed his rough-ground mirror and a tool made from ceramic tiles. The constellation talk, on Coma Berenices, was given by Darryl Archer.

Our meeting in May fell on the same day as the solar eclipse. Everyone had a story to tell with regards to what they had seen and where they had watched it from. The clear skies that day over the Kitchener-Waterloo region allowed it to be seen by all. At the meeting the main speaker was Peter Daniel who spoke on "Numbers in Astronomy". He described why there are limits on what you can see and why you cannot view the lunar module on the moon no matter what size scope you use. Jeff Collinson gave a star talk and spoke on some CD-ROM images he had purchased.

Over the summer there were no planned meetings but many people travelled out to our observing site for informal gatherings. The big news was the collision of Comet Levy-Shoemaker with Jupiter. This was a rare opportunity to watch the destruction of a comet and the blemishing of a planet. In August many members made the trek to Mount Forest for the annual Starfest. The skies were very clear on the Friday night and the seeing was considered excellent. As in the previous year, many of us were able to look through the telescopes of Jeff Collinson and Darryl Archer and were rewarded with some spectacular viewing. The main talk was by David Levy who provided the listeners with the most recent information on the Jupiter-comet crash.

A return to our regular meetings in September saw Jeff Collinson as the main speaker. He showed slides of what he had seen and done over the summer. This included trips to star parties as well as pictures from the May eclipse. There was a lot of Jupiter talk and comparisons to find who saw the most impact sites. Some members spoke of seeing six to seven marks on Jupiter from the impacts. Peter Daniel mentioned some sunspots he had been following and Darryl Archer showed a video he had made at the Huronia Star Party. Larry and Kim Mitchell announced they have set up a BBS for the centre and have a number of astronomy programs and GIF files.

In October, Hugh Chesser from ComDev explained how orbital dynamics are used to decide on satellite orbits and the implications this has on the thermal characteristics of the spacecraft.

In the first week of November a special meeting was held. The main speaker was the RASC national president, Doug Hube. He described an expedition he and others had taken to Fort Nelson, B.C. to observe the graze and eclipse of a bright star during a lunar eclipse. He explained how these observations are used to make accurate predictions on lunar position and size.



At the regular November meeting Oscar Cole Arnal spoke on his experiences with variable stars and the AAVSO. He initiated a contest among the members by giving them assigned variable stars that they are to follow throughout their changes. Oscar recommended a number of books on the topic and described what the AAVSO is and how its collected data is used. Peter Daniel had a number of slides he had taken recently and compared some of the objects with older pictures.

At the final meeting of the year in December, a new executive was elected. At this meeting Darryl Archer displayed his camera mounted on a hubcap which allows him to take wide sky shots. He also demonstrated his modifications to a Telrad finder that has the finder light flashing, thus saving his batteries. Oscar Cole Arnal gave an update on the progress of his variable star contest and announced that it would be extended for a few months. The prize will be a one year membership in the AAVSO.

In 1994 the renovation work on the club's 12.5 " Newtonian got a bit side-tracked. The scope has not been forgotten and it will again see light one day; perhaps this will be the year. To those who have done work and maintenance at the observatory site, it is appreciated by all.

Paul Bigalow, after working on our monthly newsletter, *Pulsar*, for eight years has decided to step aside. He has done an excellent job as editor over the years and deserves a lot of credit for the time he has put towards the newsletter. All members say "Thank you". John Molson has decided to take over the position and we wish him the best of luck. We hope 1995 will bring good viewing and clear skies.

Jeff Brunton, Secretary

The Montreal Centre had a full complement of Saturday night talks in the 1993-94 membership year. Fourteen talks were presented, including eight by professional astronomers:

Dr. Tony Moffat: **Very Dense Stellar Cores at the Centre of HII Regions**; Dr. Rene Racine: **The Gemini 8-Metre Observatories and Adaptive Optics**; Dr. Jack Sullentic: **Observational Challenges to the Big Bang**; Dr. Hubert Reeves: **Origin of Galaxies**; Dr. Pierre Bergeron: **Astroseismology of White Dwarf Stars**; Dr. Serge Demers: **Milky Way Structure and Evolution**; Dr. Gilbert St-Onge: **Imagerie Numerique CCD**; Dr. Grant Hill: **What is Normal Amongst A-Type Stars?**

The year was also fittingly started and ended by our honorary president, David Levy. David's topic at the open house on October 9th, 1993 was "Comet to Hit Jupiter". His lecture on September 26th, 1994, presented in conjunction with the Montreal Planetarium was "Comet Crash on Jupiter: A Personal Perspective".

*Skyward*, took a seven month hiatus and reappeared in July thanks to the skill and hard work of interim editor Patrick McNeil.

Under the leadership of Ian Harris and Gary Angers, centre members rallied to spruce up the Isabel K. Williamson Observatory and hold an open house there on May 15th. A fine array of members' scopes was displayed on the football field and inside the observatory the computer, VCR and slide projector hummed away. For the umpteenth year, the gods did not favour us with clear skies but we were gratified to see a steady number of visitors all the while enjoying the strains of Ian's guitar.

Our director of observational activities, George Livadaras, led the Montreal Centre through an exciting observing year. One group of members drove to the state of New York for the best view of the May 10th annular eclipse. Cathy Palmer-Lister prepared her grade four students for the big event and their drawings graced the cover of the August *Skyward*. On June 4th a fireball and meteor fragments in the Montreal area kept astronomy in the forefront of the news, and then in July, members braved mosquitos and dodged clouds to get a glimpse of Jupiter after Comet Shoemaker-Levy 9 left "the mighty planet looking battered and black-eyed" in George's words. In August, nine members convened with George at Cooper Marsh to view the Perseid meteor shower. The shower was pretty sparse but the summer night under the stars was worth the trip.

The annual telescope makers convention in Springfield, Vermont is a big attraction for the Montreal Centre. This year seventeen members made the trek down I-89 and enjoyed the crystal clear skies of Breezy Hill.

Ever in search of dark skies and with no out-of-town site to call their own, Montreal Centre observers prowl the secondary roads of western Québec and eastern Ontario usually led by Bill "the Indomitable" Stropole. The favoured spot so far is the ski chalet at Mount Sutton, an hour and half drive from Montreal. While the southern horizon is partially obscured by Mount Sutton itself, observers have the luxury of a high wooden deck, tables and benches. With some new large binoculars and large aperture Dobsonians in our group, we look forward to great views in '95.

Carole Talbot, Secretary

The Niagara Centre had a very active and successful year. Attendance at both centre and public events was up from the previous year, and was especially noticeable at our monthly meetings and public star nights. The monthly meetings of the centre were held in the LaMarsh Room of the Niagara Falls Public Library on the fourth Thursday of the month, except for July and August. The following is a list of the speakers and topics for our regular meetings in 1994:

January 27 Members' Night: reports; slides by Carl Milazzo

Montreal

Niagara

Centre Reports

February 24	Annual Meeting: election of directors; reports, slides.
March 24	<b>Amateur Telescope Making</b> by Jim Winger, Hamilton Centre; Annual Meeting: election of directors; reports; slides
April 28	<b>Astrophotography</b> by Marvin Scott & Carl Milazzo; reports; slides
May 26	<b>CCD Systems</b> by Joel Stuckey, Buffalo Astronomical Association
June 23	Members' Night: reports; slides
September 22	<b>The Jupiter Impacts</b> by Ivan Semeniuk, Ontario Science Centre; review of summer activities; slides by Carl Milazzo
October 27	<b>Lunar Eclipse/Graze Occultation Expedition to Fort Nelson</b> by Dr. Doug Hube; Annual Meeting: election of officers and directors
November 24	<b>Chaos</b> by Dave Strelaw; <b>Light Pollution</b> by Randy Vant;
December 22	Members' Night: informal talks; astronomical software demonstrations

There was a significant increase in requests from community groups for astronomy talks and star nights. The requests came primarily from local schools for classes at the primary level. Some of the groups for which the centre organized events included Cave Springs Summer Camp in Beamsville, Ont., and the Girl Guides of Fenwick, Ont. As in past years, the centre conducted a very successful star night for astronomy students at Brock University in St. Catharines. Throughout the summer and early fall, public star nights were conducted at Lester B. Pearson Park, also in St. Catharines.

The Niagara Peninsula was ideally situated for viewing the May 10th annular solar eclipse. The centre took advantage of this by organizing public viewing sessions of the eclipse. Members set up telescopes in the courtyards of the Centennial Library in St. Catharines and the main branch of the Niagara Falls Public Library. There was a large turnout at both locations, and local media was present to record the event.

On July 20th, the centre commemorated the 25th anniversary of the Apollo 11 moon landing by hosting a daylong educational event at the Niagara Falls Public Library. Telescopes and astronomy software were on display, space slide sets were shown, and a large screen TV was tuned to the NASA Select channel's coverage of Comet Shoemaker-Levy 9's impact with Jupiter. After 10 PM, the telescopes were moved out to the parking lot for public viewing of the Moon and other objects.

The centre continued to upgrade the Al Kindy Memorial Observatory. A drive corrector was installed on the equatorial mounting of the 17.5" scope, and the mounting itself was modified to allow for smoother operation. The telescope was fitted with a camera mount, and a bulk supply of Fuji ISO 400 film was purchased at a reduced price to encourage members to engage in astrophotography. The observers' group, chaired by Robert Lenz, conducted monthly observing sessions at the observatory which were well attended.

The centre's public relations director, Randy Vant, began a campaign to reduce light pollution in the Niagara region. Randy is preparing an educational program to present to local municipal councils, and is enlisting the aid of local industries and other public bodies to make an impact on this problem.

The centre began operating under its new by-laws in 1994. This transition resulted in two annual meetings this year.

An awards presentation was held at the November 24th meeting. Membership Certificates were awarded to Rick DeRosa, Lisa Dickhout, Charles Fassel, Frank Scordino, Marvin Scott, and Bob Winder. Congratulations to all the recipients! Overall, 1994 was a very successful year for the Niagara Centre, thanks to the efforts of the executive and members alike.

**Ron Gasbarini, Secretary**

The Ottawa Centre membership for 1994 was 229 members, consisting of 189 regular, six junior, and thirty-four life members.

This number shows a decrease over 1993 membership by six.

In 1994, two of our members, Doug George and Peter Ceravolo, were elected to the positions of first and second vice-presidents of the national council of the RASC.

Our first vice-president, Richard Wagner provided the Ottawa Centre with a variety of very interesting speakers. The year began in October with a talk by Lorne Avery on "Molecular Clouds and Star Forming Regions".

Our annual dinner meeting, held on November 9th, 1993, featured a talk by Carolyn Shoemaker entitled "Discovery!". She talked about the discovery and anticipated crash of comet Shoemaker-Levy into the planet Jupiter in July 1994. At the annual meeting Doug Louma was presented the Observer of the Year Award for his intensive sunspot survey conducted during 1993.

The December centre meeting was a film night featuring videotapes of talks by Al Nagler entitled "Eyepieces that Engulf Spacecraft" and Jack Newton on "CCD Imaging". These talks were recorded at Starfest.

The centre meeting of January featured the national president of the RASC, Peter Broughton speaking on "A Century of Astronomy" and the book that he has compiled on the history of the RASC. In February, Paul Marmet of the University of Ottawa gave a talk entitled "In Search of a Realistic Cosmology". Dr. Douglas Welch of McMaster University spoke at the April meeting on "Variable Stars from the Large Magellanic Cloud to Virgo".

"An Evening with the Meteorites" presented by Dr. Richard Herd in May at the Geological Survey of Canada building was a very interesting evening for members to come and see Canada's foremost meteorite collection and handle part of the famous Peekskill Meteorite. This was to perk our interest just in time for the St-Robert meteorite that fell in June.

## Ottawa

The Ottawa Centre's Indian River Observatory, located near Almonte, Ontario was the location for many events, including a Messier Marathon on March 11th-12th and several star parties throughout the year. The number of visits by members to the observatory almost tripled as compared to the same time period last year. This was despite the fact that we had one of the coldest winters on record, lots of bugs in the summer and more overcast and wet weather than in 1993.

The job of editor of our centre's newsletter, *Astronotes*, was passed from Doug George to Brian McCullough.

Both the Stan Mott Book Library (managed by RoseAnne Mussar and assisted by Gary Mussar and Rob McCallum) and the Ted Bean Instrument Loan Library (operated by Patrick Laffey) were well-used by our membership during the year.

Council met during 1994 on February 5th, June 10th, and September 16th. At the February 5th meeting, the following committees were appointed: program; national council representatives and alternates; *Astronotes* editorial advisory board; nominations and awards; membership; library; observatory; light pollution; dinner meeting; and accommodation.

**Jane Lund, Secretary**

L'année 1994 n'aura rien à envier à celles qui l'ont précédée. Tout d'abord les conférences mensuelles ont connu un succès aussi important que par le passé et demeurent l'activité la plus appréciée des membres. La liste ci-dessous résume ce que fut cette activité.

## Québec

5 janvier	<b>Les étoiles variables à courtes périodes</b> par Sonya Delisle
2 février	<b>Alignement de l'optique d'un télescope et de ses paramètres</b> par Martin Rochette
2 mars	<b>Le soleil, notre étoile</b> par Damien Lemay
6 avril	<b>Les galaxies à noyau actif</b> par Dominique Beauchamp
4 mai	<b>Les supernovae en relations avec les amateurs</b> par Gilles Chapdelaine
1 juin	<b>Les nouveaux habits du Big Bang</b> par Jean-Rémy Duquet
7 septembre	Conférence du groupe des observateurs: <b>Video de Stellafane 1994</b> par Dan Côté; <b>Dessins de l'impact de la comète SL-9 sur Jupiter</b> par Jean-François Viens; <b>Video de l'éclipse annulaire du 10 mai 1994</b> par Jean-François Viens
5 octobre	<b>Contribution de l'astronome amateur pour la science</b> par Dan Côté
2 novembre	<b>La recherche en astrophysique, un exemple concret</b> par Dominique Beauchamp
7 décembre	<b>Optique adaptative au télescope Canada-France-Hawaii</b> par Yvan Dutil

Les causeries et soirées d'observation du samedi du premier quartier se sont poursuivies en 1994. À ces deux types d'activités s'est ajoutée cet automne, à titre expérimental, une rencontre mensuelle dont l'objectif était de permettre aux membres d'échanger entre eux et de favoriser l'intégration des membres débutants. Cette activité sera probablement reprise sous une autre forme à l'automne 1995.

La journée travaux des membres a permis à plusieurs membres de se rencontrer. Tous ont pu admirer les dessins de Gilles Chapdelaine, les photographies de Guy Campeau ainsi que les images réalisées par Denis Martel avec sa caméra CCD ST-6. Patrick Dufour et Michel St-Laurent ont fait la démonstration de leurs caméras CCD construites à l'aide des plans du livre "The CCD Camera Cookbook" de Richard Berry. Plusieurs autres membres ont aussi apporté leur télescope ou leur logiciel favori afin de donner une idée de ce qu'est l'astronomie amateur aux visiteurs qui ont participé à l'événement.

Le groupe des observateurs a organisé le 10 mai un voyage à Syracuse afin d'observer l'éclipse en plein centre de l'annularité. À Québec, une séance d'observation à laquelle ont participé plus de cent personnes a été organisée à la bibliothèque Gabrielle Roy.

Malgré un temps incertain, une soirée d'observation des perseïdes a été organisée à St-Nérée le 12 août. Ceux qui se sont donné la peine d'observer entre les nuages ont pu apercevoir quelques dizaines d'étoiles filantes. Plusieurs membres ont aussi pu observer à cette occasion la marque des impacts, encore visibles, de la comète Shoemaker-Levy sur Jupiter.

Le conseil a organisé le 3 septembre à St-Luc, en collaboration avec les membres du "Centre d'observation astronomique des monts Notre-Dame", une épiluchette de blé d'inde qui s'est terminée par une soirée d'observation sous un ciel idéal jusqu'à l'arrivée de l'aurore.

Le projet de doter le Centre de Québec d'un observatoire permanent n'a pu se concrétiser, puisque les membres ont décidé lors de l'assemblée annuelle de ne pas aller de l'avant avec le protocole d'entente qui aurait lié entre eux le Centre de Québec, la municipalité de St-Elzéar et l'Université Laval propriétaire de l'observatoire de St-Elzéar. Cependant plusieurs membres se sont impliqués à titre personnel dans la réouverture de ces installations au cours de l'été.

Plusieurs de nos membres ont aussi participé au cours de l'été à l'animation des soirées d'observations qui ont suivi les mercredis soirs de l'astronomie organisés par la Commission de champs de bataille nationaux sur les Plaines d'Abraham.

Parmi les productions du Centre de Québec au cours de l'année, on doit mentionner les quatre numéros de "La Chouette", nom donné au bulletin du club, ainsi que l'almanach graphique 1995 qui en était à sa cinquantième année de parution.

Une série de quelques cours sur l'utilisation des caméras CCD et le traitement d'image a été mise sur pied par Dominique Beauchamp au cours de l'été. Toujours dans le domaine de l'imagerie CCD, il convient de souligner l'initiative de Denis Martel qui a créé "CCD-Québec" le premier magazine québécois dédié exclusivement à cette technologie.

En 1994, le club a fait l'acquisition d'un télescope de type Newton sur monture Dobson. Cet instrument, d'un diamètre de 250mm, pourra être mis à la disposition des membres au cours de la prochaine année.

En terminant, merci à tout ceux et celles, trop nombreux pour les nommer, qui ont permis de faire de 1994 une année astronomique bien remplie au Centre de Québec.

**Clément Drolet, secrétaire**

The 1993-1994 year can be counted as probably the St. John's Centre's greatest year to date, actually making RASC history by hosting its first General Assembly, which, by all accounts, was a success. It was, of course, further highlighted by the awarding of Service Medals to members Randy Dodge and Garry Dymond, both most deserving recipients. However, while perusing minutes of executive and monthly meetings and other reports to prepare this report, I was struck by the fact that our centre has garnered a five-year history, not unnoticed by many in the society, of a very consistent level of activity and cooperation. I would also suggest that this level of activity and cooperation was the backbone to our holding a successful General Assembly (how could the weatherman not cooperate with our commitment?).

There really was not any outstanding organized event in the centre this year, (in my opinion, a GA should be considered extraordinary) although our great summer also contributed to increased observing activities with the solar eclipse, the unique "Shoemaker-Levy-Jupiter" event, and the "Great Perseid Meteor Shower". However, our observing group is continually active and it has been rare when there have not been at least some observations reported at monthly meetings.

Our monthly meetings also show this trend, continuing to attract, on average, approximately half the membership. This is no doubt mainly due to the quality of our presentations, such as Chris Stevenson's talk on the "Life of Stars", a video based on Stephen Hawking's book "A Brief History of Time" and Phil McCausland and Malcolm Simpson cooperating on the life of Charles Messier and the Messier hunt. This overall quality of our monthly presentations has also been consistent, although a presentation given in lieu of an astronomical event seems to attract a larger crowd, such as the June meeting when Gary spoke on the then-upcoming Jupiter event.

This general air of cooperation within the centre has given us great honour within the society, and the success of the General Assembly was the proverbial "icing on the cake"; and local recognition is proof positive that the St. John's Centre is a vital part of Newfoundland and the society. At one time it would have been an event for a national president to visit us. While it's always an honour to have a national president visit, they now seem to look forward to visiting us as well. The General Assembly has been the focus of centre activity, especially so towards the time of the event itself, but it did not take over the centre's life. Rather the GA added to our year(s) very generously, and that was due to everyone playing a role. In the past few years member involvement in centre activities has definitely increased, and it has culminated in our centre showing outstanding results, whether it be last year's membership survey, or this year's GA, or the yearly centre reports. In addition, we have not stopped. We were invited to celebrate Astronomy Day with an open house organized by Memorial's Faculty of Science and a group called SET Square.

Many thanks to Gary Dymond, Brian Payton, Phil McCausland, Ian Gorner and Glyn George for playing host to thousands of children. Our yearly Star-B-Q was especially successful this year and, of course, visits to various groups such as Guides and Scouts went on, and this year we have yet organized another teaching tool. Phil McCausland and Fred Smith, on behalf of the centre and operating through Memorial University's School of Continuing Education, have organized a non-credit astronomy course for beginners. It consists of twelve hours of classes with various members volunteering their time to teach, and proceeds from the course go into centre coffers. The registration fee for the course includes the cost of the Beginner's Observer's Guide and a night out observing. The response to it was great and university officials have asked us to give it again next semester. We are probably not the only centre doing this, and can only join those other centres in having a sense of satisfaction at such a tremendous public response to a centre activity. However, even in the most active centres, centre life settles into a routine—monthly meetings, going out to observe when the weather cooperates, educating the public, and being ready to act when some out-of-the-ordinary astronomical event occurs are yearly activities. We continue to be very pleased in keeping our interest levels up, having a vital centre, and all this despite having a reputation for lousy weather. If the General Assembly was the highlight of our year, then the only surprising factor in its success was the weather.

**Dennis Ryan, Secretary**

In January 1994, our membership totalled nine and the executive got together to discuss plans for the year. The meeting was held at 160 George Street, Apt. 309, Sarnia, the home of one of the executive. Among the subjects discussed were: Hobbyfest 1994, the purchase of David Lane's computer program Earth Centred Universe, Astronomy Day, possibilities for field trips, speaker exchanges between Sarnia and London, the annular eclipse of May 10th, the upcoming yearly report and the loss and subsequent recovery of the centre's *Sky Atlas 2000.0 Deluxe Addition*.

## Sarnia

For February, Old Man Winter hit Sarnia, and hit it hard enough that the February meeting had to be postponed until March 4th. On that date we met (thanks to Ralph Tyrie) who graciously offered his own home as the setting for the get-together. There plans were made for the next few months, with the annular eclipse taking the front seat.

April and May were quite hectic as at one meeting the final plans for the eclipse were laid out and by the next meeting, a very excited party turned in their reports. Afterwards a star party was held. I could be more detailed for these two months, but that would take up a lot of space, as my personal logs go on for at least half a dozen pages in regard to the eclipse and the star party.

In June, plans were made for the upcoming Hobbyfest. Every year Sarnia has a gathering for any and all clubs in the Sarnia area, which is held in a local park. Here the groups can put up displays, demonstrate their activities and show what they have available for the public interest.

At this point I would like to summarize by saying that the remainder of the year was filled with highs and lows, the worst of which, in my opinion, was our last meeting for the year. At that meeting, there were, if you count both guests, a total of only four people. This is, in my opinion, a sad turnout. However, it is my fervent hope that the up and coming year may have a lot more in store for Sarnia and the surrounding areas.

*James Selinger, Secretary*

**T**his past year has seen a continuation of the growth in the Saskatoon Centre that started last year. We have kept up our policy of several short presentations at each general meeting instead of one main topic as we did in the past. This keeps the interest level high and the meetings diverse. In addition to the events listed below, we held monthly observers group meetings at our Rystrom Observatory every month throughout the year. We have also done much work on membership and promotions by utilizing what we call temporary memberships. A three month, no charge, temporary membership is given to anyone who is interested in astronomy or joining the RASC. This entitles them to three issues of our newsletter and our membership/promotions coordinator phones to invite them to our general and observers group meetings. We are finding this an effective method for attracting new members to the centre. Each and every one of the executive worked hard this year for positive results in our centre's activities. Here's to a great 1995.

# Saskatoon

The Saskatoon Centre was saddened by the passing of two cherished members in 1994. Gordon N. Patterson died after a long illness on October 29th, 1994. Gordon's contribution to the centre is difficult to measure because he did so much. He was a prime builder and driving force of the centre for twenty years. He opened his home up to all members for regular Saturday night meetings. He was instrumental in the foundation of the Rystrom Observatory (see below) and a constant educator of astronomy's youth. Ed Rystrom died on December 28th, 1994. Ed provided us use of his farm for the location of the centre's first permanent observatory, named in his honour. As the story goes, it was Ed who suggested to Gordon Patterson that we should build a permanent observatory after he saw us struggling to complete an astrophotography project from a snow igloo at -40°C! Both are greatly missed.

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|-----------------|--|
| January 17      | <b>Slides from the November Lunar Eclipse</b> by B. Hydomako; <b>More Front Page Astronomy</b> by G. Sarty; <b>Telescopes, Telescopes—A Saskatoon Centre Extravaganza</b> by various centre members  |
| February 21     | <b>The Invention and Evolution of the Telescope</b> by Dr. E. Kennedy; <b>Brass Telescopes and Astronomy Magazine</b> by Gary Brett; <b>Three Solar Eclipse Expeditions and the Coming May 10th Annular Eclipse</b> by Don MacKinnon   |
| March 15        | <b>What is the RASC?</b> by Peter Broughton, National President  |
| April 16        | Astronomy Day mall display and public star night   |
| April 18        | <b>Comets</b> by G. Sarty  |
| May 10          | Annular solar eclipse—public viewing from downtown Saskatoon   |
| May 16          | <b>Meteorite Hunting</b> by K. Mysyk; <b>Summer Constellations</b> by S. Ferguson; <b>Astronomy Day Slides</b> by S. Ferguson; <b>Solar Eclipse</b> by G. Sarty  |
| June 20         | <b>25th Anniversary of Apollo 11 and The Lunar Eclipse of May 11, 1994</b> by R. Huziak; <b>The Peekskill, NY Meteorite Video</b> by K. Mysyk  |
| July 8 & 9      | Public star night at Diefenbaker Park  |
| August 11       | Perseid meteor shower  |
| September 8 & 9 | Public star night at Wanuskewin Heritage Park  |
| September 19    | <b>The Archiving and Dissemination of Astronomical Information</b> by Dr. E. Kennedy; <b>The '94 Mount Kobau Experience</b> by A. Hartridge; <b>Comet Shoemaker-Levy 9's Impact on Jupiter</b> by G. Sarty; <b>Serious Noctilucent Cloud and Meteor Observing</b> by R. Huziak |
| October 17      | <b>Autumn Observing</b> by S. Ferguson; <b>Problems with Hypering Film</b> by A. Hartridge; <b>RZ Cassiopeia—The Beginner's Variable</b> by R. Huziak  |

November 21

**New Ideas in Relativity** by Dr. E. Woolger; **Determining the Magnitude Scale** by Dr. E. Kennedy

December 19

**Beginning Astronomy with Binoculars** by S. Ferguson; **Recognition of Canadian Professional Astronomers** by Dr. E. Kennedy; **Why Won't Blue Stragglers Grow Up?** by S. Shadick

*Richard Huziak, President*

As was predicted, this year we lost many members due to the economy. In the past we usually lost about 25%—this year it was about 50%. With this loss came other changes that have provided new enthusiasm for the members of the centre. In October, Bob Bishop gathered together a group of fifteen young astronomers in the age group of eight to fourteen, with an almost even balance of boys and girls. The group's members all live about 30 kilometres west of Thunder Bay. Our meeting place for three sessions from 7:00 to 9:00 PM was in the home of one of our regular members. The enthusiasm and attendance surprised the parents who also attended the sessions but stayed in the background and listened to the presentations. The centre newsletter now has a special page entitled "The Young Astronomers" which is written especially for this group.

Like many other centres we gathered information leading up to the impact of Comet Shoemaker-Levy with Jupiter. In January, Dr. Griffith from Lakehead University provided us with an address on the impact possibilities.

February brought us Terence Dickinson who brought new slides and information about South America. This presentation attracted many new faces which resulted in an increase in members. March brought national president Peter Broughton and his presentation about the history of the society.

From April to August there were several special events for which we gathered to observe and enjoy the summer skies. Most of these events were well-attended by invited public. The media kept us in front of the public as the comet approached and impacted Jupiter. Some of the members went to southern Ontario to see and listen to David Levy talk about the "Death of a Friend". His talk was most moving as he described the first sighting and then the development of the impact predictions and then his personal feelings as the media closed in on him for first-hand comments. Our new national president, Dr. Hube was our final speaker of the year and we held a pot luck supper prior to his talk. This event brought out a surprising number of interested locals as well and was a great time to meet and talk with the president.

*R.C. Bishop, Secretary*

The 'star' event of the past year for the Toronto Centre was most certainly that of the annular eclipse of the Sun on May 10th, 1994. On this date the solar eclipse, visible over most of North America, provided the centrepiece for our Astronomy Week activities as the eclipse centreline passed only a few kilometres to the south of Toronto.

Much preparation was made ahead of eclipse day highlighted by a special members' night meeting which detailed eclipse specifics, and especially, viewing safety. The McLaughlin Planetarium and the Ontario Science Centre produced eclipse safety material for Ontario schools and the public. Eclipse day itself featured the Toronto Centre assisting the OSC with its ECLIPSEwatch program in which 1 800 people were able to view the eclipse safely. Centre member Dr. Ralph Chou provided expert safety information for CBC Newsworld via live updates from the OSC. Randy Attwood hosted a special Rogers Community Cable program live from the front plaza of the planetarium which was carried on the cable systems of dozens of cities in southern Ontario.

Many centre members took to the road and some even to the air in search of the perfect site to witness this local eclipse. A few were blessed with clear blue skies and all were at least able to view it between patchy clouds. In total, more than 100 centre members participated in the various observing workshops, public displays, and star nights during Astronomy Week.

Aside from Astronomy Week, the public education committee, chaired by John Ginder, was kept busy throughout the year. Monthly summer public star nights were held successfully this year on June 14th, July 11th and August 15th, 1994 at both of our traditional east and west city sites. Fourteen school and group talks as well as four special request star parties were organized by Steven Spinney and John Ginder. Shopping mall displays continue to serve as one of our primary means of introducing the public to astronomy and making them aware of the RASC. Two displays were co-ordinated and run by Robert Taylor and a team of volunteers. The Toronto Centre continued its tradition of helping out the staff of the David Dunlap Observatory with their Saturday night public viewing program. Several members brought out their telescopes and met with the public this year on clear nights from April 9th to October 1st.

Chaired by Guy Nason, the observational activities committee organized eleven members' night meetings, twenty-two observing workshops, and thirteen deep sky workshops during the past membership year.

A total of twenty-nine different individuals gave fifty-six members' night presentations. Subjects included: the November 1993 lunar eclipse; STARFEST '94; the Winter Star Party and other North American astronomical conventions; the variable star AE Aquarii; the May 10th annular solar eclipse; the Hubble repair mission; CD-ROMs; the Jupiter/Shoemaker-Levy 9 collision and humour in astronomy.

## Thunder Bay

## Toronto

Steven Spinney and Martin Bonert organized monthly members' observing workshops in Scarborough and Etobicoke respectively. Robert Chapman conducted a series of twelve deep-sky observing workshops at Camp Robin Hood and Ken Davy produced a dark sky session at Forks of the Credit Provincial Park as a pilot project for west end observers. Attendance at these events varied from a few to over fifty, depending on weather and observing conditions.

To celebrate the 125th anniversary of the first meeting of the Toronto Astronomical Club, which was on December 1st, 1868, a public meeting was held on November 26th, 1993 at the Ontario Science Centre. The guest speaker was Dr. Stephen Maran of NASA's Goddard Space Flight Center. His topic was *Science with the Hubble Space Telescope*. This lecture, organized jointly by the Ontario Science Centre and the Toronto Centre, took place one week before the beginning of the space shuttle mission that was to repair the Hubble Space Telescope. In addition to Dr. Maran's lecture, Dr. John Percy organized an informative and diverse programme of speakers for our regular meetings. These were:

October 29, 1993	<b>Women in Astronomy</b> by Dr. Nancy Remage-Evans
January 28, 1994	<b>Mysteries of Cool Stars</b> by Ian Short
February 25, 1994	<b>A Clearer View of the Galactic Neighbourhood</b> by Prof. Marshall McCall
March 25, 1994	<b>Variable Stars: A British Perspective</b> by John Isles
April 22, 1994	<b>Cosmology Today</b> by Dr. Glenn Starkman
May 27, 1994	<b>Is the Solar System Stable?</b> by Prof. Scott Tremaine
September 30, 1994	<b>Nuclear Astrophysics</b> by Prof. James D. King

A joint meeting with the Royal Canadian Institute was held on October 31st, 1993. The speaker was Prof. Robert F. Garrison who spoke on the remarkable achievements and productivity of the Helen Sawyer Hogg Telescope, a 0.6 m telescope at the University of Toronto Southern Observatory in Chile.

The production of the centre's newsletter, *SCOPE*, was placed in the hands of a new editor. In April, David Hanson succeeded MaryAnne Harrington, who has expertly directed its production for the past five years. Serving the centre as the editor of *SCOPE* requires a great commitment of time and energy and on behalf of the Toronto Centre I extend a special vote of thanks to MaryAnne Harrington for a job very well done.

The Toronto Centre's tenth annual awards banquet was held, once again, at the Toronto Marriott Eaton Centre Hotel on Saturday evening, April 23rd, 1994. The evening's program was chaired by Randy Attwood, with Ian McGregor handling the award portion of the program. Our guest speaker for the evening, was Dr. Thomas Clarke, head of the McLaughlin Planetarium. Dr. Clarke's talk, entitled "Twenty-Five Years Under The Dome", celebrated the people, history, planning, construction, present and the future of the McLaughlin Planetarium, which opened its doors to the public twenty-five years ago. The Toronto Centre awards were then presented: The Jesse Ketchum Award for considerable work in the construction and/or application of equipment suitable for astronomical observation was awarded to Mr. Tony Horvatin; The Andrew Elvins Award for promotion of interest in astronomy was awarded to the McLaughlin Planetarium and was accepted by Dr. Clarke on behalf of his staff; and The Bert Winnearls Award for efforts in supporting the centre's activities was awarded to Dr. John Percy. The drawing for door prizes closed off a very enjoyable evening. Many thanks to Perceptor and Dr. Ralph Chou for their assistance with the door prizes.

Membership as of September 30th, 1994 included 655 regular, twenty-three youth and eighty-one life members for a total of 759. There were also fifty-nine associate members.

I would like to extend a vote of thanks to the many members who have donated to the centre over the past year. Their continued generosity enables the centre to maintain the many services available to its members.

This year the Toronto Centre council was pleased to accept a very generous donation by Dell Computer Corporation of a new computer system. Many thanks go to Mr. Harvey Coleman, the president of Dell Computer Corporation, Mr. Bruce Kay, Mr. Reg Freake, Mr. George Sommerville, Ms. Susan Rennie and Mr. Robert Taylor.

The optical workshop operated this year under co-chairs Bill Gardner and Kim Sprague. The group met on Saturdays during the year and completed several mirrors with the assistance of Issac Kravec.

The year 1988 marked the first presentation of the Toronto Centre Gold Medal. This award had been presented by the national society to honour the highest ranking fourth year honours student in the undergraduate astronomy programme of the University of Toronto. In 1987 the society's national council replaced that award with the Plaskett Medal to be awarded jointly with the Canadian Astronomical Society for an outstanding Ph.D. thesis in astronomy. The Toronto Centre council decided to maintain the tradition of the Gold Medal by taking over this award. The award was not made during this membership year as no student met the selection criteria.

It should be noted that June of 1994 marked the 20th anniversary of the incorporation of the Toronto Centre under the laws of the province of Ontario.

Our annual open house at the David Dunlap Observatory was held on September 17th, 1994 and I extend thanks to Dr. Tom Bolton and the observatory staff for their hospitality.

On behalf of the Toronto Centre, I thank all those members whose generosity of their time and talents, made possible the success of the activities mentioned in brief in this report. Thanks 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 would also like to thank the Royal Ontario Museum and the McLaughlin Planetarium for continuing to very kindly allow us to use their facilities.

Membership for the 1993-94 year stubbornly remained at one of the lowest levels in some years, though signs of recovery were evident in the number of new members who signed up. It has been encouraging to note how many of our new members have been in the younger age bracket, and for the first time in some years, we have had an increase in teenage members.

Besides our regular monthly meetings, which are held at the University of Victoria, the centre has a thriving CCD observers' group which meets at Jack Newton's home. We also have a newly-organized beginners' observing group which helps many new members to learn the basics of astronomy using simple, manual telescopes. This group meets at Sid Sidhu's home, at a dark site well north of Victoria, which is well-suited to this purpose.

A number of members have enthusiastically plunged into the deep waters of CCD making, using various plans, mostly the popular Cookbook version, and most are well on the way to completion. Jack Newton's dome was sardine-packed on CCD observers' nights when he demonstrated CCD integration and image enhancement. Jack has been beta-testing a number of products from manufacturers, which makes these meetings all that more interesting. He was recently loaned a 7-inch Meade refractor and the new 12-inch Meade Schmidt-Cassegrain LX200 to beta-test, along with a Pictor CCD to take the necessary images. Compuscope also loaned him their CCD camera version and the software needed to drive it. Jack made a number of suggestions to improve the software to make it more suitable for amateur use.

The centre donated a 20-inch Newtonian telescope and the computer needed to control the telescope via *The Sky* software, to Pearson College of the Pacific. The college is located near Victoria and the equipment has been mounted inside a splendid observatory which was newly-built on college grounds. Early in the spring of 1995, when the installation is completed, the college will be holding an inaugural celebration to which all centre members have been invited. Technical assistance has been supplied by centre members Jack Newton and John Pazder.

It goes without saying that the centre feels honoured to have been involved in this fine community project. The college can now offer its students astronomy courses, complete with CCD cameras and full computer support. Pearson College's students are selected from every country in the world and the astronomy courses will be an added bonus for them. A plus for the centre is the college's invitation from Jean Godin, its acting director, for members to make use of the facility simply by picking up the phone and asking.

Officers, council members and speakers have all worked hard during the year and sincere thanks are extended to all of them. Without their efforts our past year would not have been so enriched. We enjoyed a varied selection of speakers and subjects:

October 1993	<b>75 Years of Science at the Dominion Astrophysical Observatory</b> by Dr. Robert McClure
November	<b>The Dynamics of an Asteroid</b> by Dr. Jeremy Tatum
December	<b>The York Astrology/Astronomy Survey: Reflections and Implications</b> by Dr. Michael M. De Robertis
January 1994	Members' Night
February	<b>The Quasar/Radio Galaxy Puzzle: Are They the Same?</b> by Dr. Ann Gower
March	<b>HST: The Next Generation?</b> by Dr. Dennis Crabtree
April	<b>Things That Go Bump in the Night</b> by Don Moffat
May	<b>The Star-Formation History of Nearby Dwarf Galaxies</b> by Dr. Tammy Smecker-Hane
June	<b>Twinkle, Twinkle Cannibal Star: The Blue Straggler Story</b> by Dr. James Nemec
September	Members' Night

**1** 994 for the Windsor Centre was one of reflection and anticipation. Reflection, in looking back at the Apollo 11 lunar landing of twenty-five years ago; anticipation, in our preparations for hosting our first General Assembly of the society in 1995 as well as being able to celebrate our centre's fiftieth anniversary. Frank Shepley is doing a very capable job of making preparations for the GA. Also, Tom Sharron has aptly done much groundwork for the upcoming fiftieth anniversary dinner commemorating the founding and progress of our centre. This event will be held at historic Willistead Manor, where our first membership meetings took place in 1945.

The county of Essex was, fortunately, in the path of the great annular eclipse of the Sun on May 10th and many members had private observing sessions to view our closest star in the fascinating perspective as a ring of fire.

As with other amateur astronomers around the world, some members excitedly observed the dark spots on Jupiter, which formed as a result of the crash of Comet Shoemaker-Levy 9 into that planet, soon afterwards in late July.

Along with our Astronomy Day display, which was well received again, this year we were able to further enhance public education through our new director of public education, Randy Groundwater. In his yearly report on fulfilling the responsibilities

## Victoria

## Windsor



of this office, he noted that he was on the radio seven times, interviewed on cable television twice and, more importantly, did fifteen presentations to various Cub and Brownie groups, along with doing the same for other social groups. In addition, he continued to write a monthly astronomy article for the *Windsor Star* and is still teaching an introductory astronomy course at St. Clair Community College. We are quite appreciative of his public education efforts in the Windsor community.

In our membership meetings we continued to have a good mix of local and out-of-town speakers. We greatly appreciated last fall's visit and talk from our new national president, Dr. Douglas Hube.

Tim Bennett completed his inaugural year, quite well, as president of our centre. He has entered the world of CCD imaging, with building and using a new Cookbook CCD camera. One of his early images, of M27 the Dumbbell Nebula, was featured on the cover of the January 1995 issue of our newsletter, *Aurora*.

Sincere thanks are expressed to all persons involved in making 1994 another great year for the centre.

During the year, the Windsor Centre held nine membership meetings, three council meetings, one special membership meeting, one social and one observing session. The membership meetings were as follows:

- |              |   |
|--------------|---|
| January 18   | <b>Members' Night: The Upcoming Annular Solar Eclipse</b> by Frank Shepley;<br><b>The Effects of Light Pollution</b> by Susan Sawyer-Beaulieu |
| February 15  | <b>Astronomy in Ancient Times</b> by Dr. Mordechay Schlesinger, University of Windsor   |
| March 15     | <b>Revisiting the Moon</b> by Steve Pellarin  |
| April 19     | <b>Variable Stars</b> by Dr. Edwin Habib, University of Windsor   |
| May 17       | <b>By Jove! A Comet Crash</b> by Dan Taylor   |
| June 21      | <b>Michigan Observatories</b> by Fred Schebor, Lowbrow Astronomers, Ann Arbor, Michigan   |
| July 20      | <b>Apollo 11 Moon Landing Commemorative—25 Years After</b> by Randy Groundwater and Tom Sharron   |
| September 20 | <b>Video Astrophotography</b> by Barry Craig, Detroit Astronomical Society  |
| October 25   | <b>A Lunar Occultation in Northern B.C.</b> by Dr. Douglas Hube, National President   |
| November 15  | <b>A Cookbook CCD Camera</b> by Gary Frye, Detroit Astronomical Society   |

*C. Joady Ulrich, Secretary*

We, at Winnipeg Centre, feel that 1994 was a banner year. Our attendance was up somewhat and our centre was well represented at several distant events. Additionally, attendance at our Astronomy Day functions was most gratifying. To add balance, though, our C14 drive blew up and, at the time of writing, we are grappling with the (gulp) expense and rationale of either a rebuild or an upgrade.



Astronomy Day '94, as in the past two years, was held at the Forks Market. The market is situated at the confluence of the Red and Assiniboine Rivers. The weather was almost ideal so that passers-by were treated to excellent views of Sol and Venus. It is a busy place on a warm, spring Saturday and hundreds were intrigued by our static displays and viewing setup. We extorted promises to return for our evening session from everyone—happily about 200 viewers complied.

Several of our members accompanied Jay Anderson on a have-scope-will travel excursion to New Mexico for the May 10th solar eclipse. They had a great time, saw lots, ate well and slept little (an astronomer's paradise, n'est-ce pas?).

On Labour Day weekend, a number of us journeyed to Rising Mountain National Park at the invitation of Mike Rossier, a member who lives near the park. In exchange for complimentary camping, we provided a daytime display and an evening session, lecture included. Well... it poured. A few sunny breaks salvaged the day session to an extent, and then it poured. By some miracle known only to Texas Star Party and Mount Kobau patrons, the skies cleared for ninety minutes at 19h30 and several dozens of tourists and campers were able to see many fine sights. Then it poured again...

Our meetings are generally held on the second Friday of each school month in the Jensen Theatre of Saint Paul's College on the campus of the University of Manitoba. Last year's keynote presentations were as follows:

- |          |   |
|----------|---|
| January  | <b>AKJUIT Space Port</b> by Reese Jones   |
| February | <b>Tektites</b> by Ed Dobrzinski  |
| March    | <b>The RASC</b> by Peter Broughton  |
| April    | <b>The University Planetarium</b> by Ian Cameron  |
| May      | <b>Vega's Inclination</b> by Dr. Austin Gulliver; <b>Auroræ and Geomagnetic Fields</b> by Kaitlin Brown |
| June     | Annual Barbeque   |
| October  | Annual Meeting  |
| November | An introduction to the Internet   |
| December | Christmas Party   |

*Crandell C. Overton, Secretary*



**Room A1046, Arts Extension Building,  
Memorial University of Newfoundland**

The meeting was called to order by RASC National President Mr. Peter Broughton at 13h42 NDT. Mr. Broughton expressed thanks to the local organizers in the St. John's Centre. Mr. Broughton called the roll of Centres. Fourteen Centres were represented and there were also several unattached members present. Approximately sixty members were in attendance.

### **1) APPROVAL OF AGENDA**

**AM9401** It was moved by Mr. Enright and seconded by Mr. Auclair to approve the agenda. The motion was CARRIED.

### **2) ADOPTION OF MINUTES OF THE 1993 ANNUAL MEETING**

**AM9402** It was moved by Mr. Pow and seconded by Mr. Marshall to adopt the minutes of the 1993 Annual Meeting. The motion was CARRIED.

## **3. REPORTS**

### **3.1) PRESIDENT**

Mr. Broughton referred to his report in the 1993 Annual Report. Mr. Broughton expressed the opinion that the Society suffers from regionalism and modesty, which are two distinctly Canadian traits. Mr. Broughton passed around recent publications undertaken by the Saskatoon Centre and the Winnipeg Centre and complimented these Centres on their efforts.

### **3.2) NATIONAL SECRETARY**

Dr. Brooks referred to his report in the 1993 Annual Report. Dr. Brooks expressed concern about the decline in membership. Dr. Brooks read out the list of members who had passed away during the past year. A minute of silence was then observed. Mr. Broughton thanked Dr. Brooks for his report.

### **3.3) TREASURER**

Mr. Hicks said that the state of the Society's finances appears in the Annual Report. At present, the Society retains approximately \$58,000 in its operating account. Mr. Hicks then read from his report to National Council and described the new arrangement with the Society's Auditor, particularly how the earlier confusion with ACCPAC has been cleared up. Short-term investments made by the Society will come due around the end of October 1994, so a further decision can be made regarding the future of these investments by the National Council at its next meeting.

Dr. Bishop asked about the financial status of "Looking Up," the history of the Society which was published recently. Mr. Broughton explained that the press run for the book was 1000 copies for members of the Society and 300 for the general public. Mr. Broughton said it is his understanding that approximately \$6000 has been received to date by the Society from sales of the book.

**AM9403** It was moved by Mr. Hicks and seconded by Rob May, to adopt the audited financial statement as published in the 1993 Annual Report. The motion was CARRIED.

Mr. Broughton announced that Mr. Hicks' resignation will take effect at the end of this meeting, and that National Council has appointed Dr. Rajiv Gupta to finish the current term of the National Treasurer. Mr. Broughton expressed thanks to Mr. Hicks for his work and sincere gratitude to Dr. Gupta for accepting the appointment.

### **3.4) NATIONAL RECORDER**

Mr. Broughton described the work of Ms. MaryAnne Harrington as National Recorder and thanked her for her excellent efforts. Then Mr. Broughton thanked Mr. Jedicke for agreeing to fill this role. A round of applause followed.

### **3.5) NATIONAL LIBRARIAN**

Mr. Broughton described the work of Mr. Garry Woodcock as National Librarian and thanked him for his excellent efforts. Then Mr. Broughton thanked Mr. Walter MacDonald for agreeing to fill this role. A round of applause followed.

### **3.6) EDITOR OF THE JOURNAL**

There was no report.

### **3.7) EDITOR OF THE BULLETIN**

Mr. Kelly reported on progress made in streamlining production procedures for the Annual Report. Mr. Kelly thanked members for submitting pictures and encouraged all members to continue submitting pictures. Mr. Broughton thanked Mr. Kelly for his continuing efforts.

### **3.8) EDITOR OF THE OBSERVER'S HANDBOOK**

Dr. Bishop reported that sales dropped 10% in the past year, and the press run for the 1995 edition will be adjusted suitably. Dr. Bishop announced that the price structure will be held constant for the coming year. Dr. Bishop also announced that consideration was given to revise the advertising approach for the coming year, and that, following a suggestion made

by Mr. Lane, a tear-out sheet will be included in the 1995 *Observer's Handbook*, advertising the 1996 *Observer's Handbook*. Dr. Bishop noted that, without the *Observer's Handbook*, the Society's annual membership fees might be as high as \$56 rather than \$36. Mr. Hicks pointed out the significance of the financial contribution which the *Observer's Handbook* makes. Mr. Broughton mentioned that the Society's *Journal* generated significantly more revenue in the past year.

### 3.9 REPORTS OF STANDING COMMITTEES

#### 3.9.1) AWARDS COMMITTEE

Mr. Lemay reported that Dr. Grant Hill, winner of the Plaskett Medal, will speak after the banquet during the General Assembly.

#### 3.9.2) NOMINATING COMMITTEE

Mr. Lemay said that the work of the Nominating Committee had already come or would come to the attention of the Annual Meeting under separate items.

#### 3.9.3) HISTORICAL COMMITTEE

Dr. Brooks summarized the main points of the Historical Committee report, as presented to the National Council. In particular, Dr. Brooks mentioned that the Society routinely responds to many requests for information which relate to history of astronomy in general and history of astronomy in Canada. Dr. Brooks congratulated Mr. Broughton for the work represented by the publication of "Looking Up." A round of applause followed. Dr. Brooks mentioned that asteroids have been named after three members of the Society in the past year, Arthur Covington, Terence Dickinson and Paul Chodas. Dr. Brooks invited members to visit the display of scientific instruments at Queen's University in Kingston.

#### 3.9.4) PROPERTY COMMITTEE

Robert May referred to the report made to National Council. The Society's property is in good condition.

### 3.10) SPECIAL COMMITTEES

#### 3.10.1) COMPUTER USE COMMITTEE

Mr. Broughton announced that the Computer Use Committee had reported to National Council.

#### 3.10.2) LIGHT POLLUTION COMMITTEE

Ms. Lewis described the plan of the Light Pollution Committee to award a Certificate of Merit each year in the province where the General Assembly is held. Mr. Broughton encouraged each Centre to actively think about possible worthy recipients of this award in each Centre's community.

#### 3.10.3) MEMBERSHIP AND PROMOTION COMMITTEE

Mr. Jedicke said that the Membership and Promotion Committee had submitted a report to National Council.

#### 3.10.4) GENERAL ASSEMBLY GUIDELINES COMMITTEE

Mr. Auclair reported that a draft of the proposed General Assembly guidelines was submitted to National Council, and invited members who wish to see the draft to write to him. Mr. Auclair announced that he will recommend to National Council that Ms. Mary Lou Whitehorne be appointed as chair of this committee. Mr. Auclair offered to continue to assist in the development of the General Assembly guidelines.

#### 3.10.5) MEMBERSHIP SURVEY COMMITTEE

Mr. Glenn Hawley reported that the final results of the Membership Survey are available from the Membership Survey Committee.

It was 14h30 at this point, and Mr. Broughton called a recess for the purpose of taking a group photo. The Annual Meeting recommenced at 14h54.

#### 3.10.6) PUBLICATIONS COMMITTEE

Dr. Hube reported for the Publications Committee. Dr. Hube described the project to develop a mockup of a new publication which might replace the *Journal* and/or the **BULLETIN**. Dr. Hube said that Mr. Lane has prepared a discussion paper concerning this project, and Dr. Hube invited members to request a copy of the discussion paper and submit suggestions.

### 4) BY-LAW AMENDMENTS

Mr. Broughton asked if any members present hold proxies of which the Secretary is not yet aware.

**AM9404** Motion "A" as presented in the agenda.

Mr. Broughton outlined how this amendment will make it clear that a member can be appointed to any office to fill the remainder of a term vacated by a previous office holder and then stand for election to the same office. Mr. King asked how Article 6.02 relates to 6.08(1), so Mr. Watson explained that there are two ways in which someone can become a holder of an office, election or appointment.

Mr. Broughton announced that a meeting of proxy holders held just prior to the Annual Meeting had established the procedure to be followed in proxy voting. Dr. Brooks called the names of proxy holders and the numbers of proxies held by each and Dr. Brooks ascertained how these proxies vote on this motion. The total was 62 proxy votes in favour.

The motion was CARRIED by two-thirds majority.

AM9405 Motion "B" as presented in the agenda.

Mr. Broughton read the proposed by-law amendment. Dr. Brooks read the roll of proxy holders. The total was 58 in favour and 4 opposed.

The motion was CARRIED by a two-thirds majority.

5) ELECTION OF OFFICERS OF THE SOCIETY

520 ballots were received. Mr. Broughton announced that National Council had appointed Mr. Mel Rankin (Edmonton) and Mrs. Ruth Hicks (Kingston) as scrutineers. Dr. Brooks announced the results of the election:

For the office of First Vice-President: Mr. Doug George

For the office of Second Vice-President: Mr. Peter Ceravolo

A round of applause followed. Mr. Broughton announced that Dr. Doug Hube will be the Society's new President, that Mr. Doug George will be the Society's new First Vice-President, and that Mr. Peter Ceravolo will be the Society's new Second Vice-President. Mr. Broughton expressed the sentiment that all candidates were excellent and thanked all for their willingness to serve the Society.

AM9406 It was moved by Dr. Brooks and seconded by Mr. Enright, that the ballots be destroyed, subject to the candidates having an opportunity to request a recount before 18h00 on July 3, 1994. The motion was CARRIED.

6) SELECTION OF AUDITOR

AM9407 It was moved by Mr. Hicks and seconded by Mr. Pow that the auditors be reappointed. The motion was CARRIED.

7) OTHER BUSINESS

Dr. Smith announced that those members participating in the tour tomorrow morning will gather at 08h30 outside Hatcher House. Dr. Smith also reminded tour participants to wear sunblock. Dr. Smith announced that arrangements would be made to ferry members to the airport as required for departures. Mr. Broughton expressed enthusiasm for tomorrow's tour.

Mr. Broughton expressed sincere thanks on behalf of all members for the wonderful, warm hospitality all members in attendance have enjoyed in St. John's.

Dr. Hube said that it will be an honour to serve in the footsteps of the Presidents of the Society. In particular, Dr. Hube pointed out that Mr. Broughton has made an outstanding contribution as President, that Mr. Broughton deserves much of the credit for the progress made during the term of Mr. Broughton and that Mr. Broughton has accomplished all of this with great patience and composure. All members stood and applauded.

Dr. Smith announced that it is hoped that copies of the group photograph will be ready this evening.

Dr. Smith requested that the displays in Hatcher House be removed before the banquet.

The meeting was adjourned at 15h27.

Respectfully submitted:

Peter Jedicke,  
National Recorder

Quotes

Against filling the heavens with fluid mediums, unless they be exceedingly rare, a great objection arises from the regular and very lasting motions of the planets and comets in all manner of courses through the heavens.

Isaac Newton  
English physicist  
(1642-1727)

The Earth in its rapid movement round the Sun possesses a degree of living force so great that, if turned into the equivalent of heat, its temperature would be rendered at least one thousand times greater than that of red-hot iron.

James Prescott Joule  
English physicist  
(1818-1889)

We see it [Neptune] as Columbus saw America from the coast of Spain. Its movements have been felt, trembling along the far-reaching line of our analysis with a certainty hardly inferior to that of ocular demonstration.

Sir William Herschel  
English astronomer  
(1738-1822)

## National

- Mailing Address/Phone • 136 Dupont Street, Toronto, Ont. M5R 1V2 / (416) 924-7973 (phone and FAX)  
E-mail Address • rasc@vela.astro.utoronto.ca  
Honorary President • Alan H. Batten, D.Sc., Ph.D., F.R.S.C., Victoria  
President • Doug Hube, Ph.D., 8930 Windsor Road, Edmonton, Alta. T6G 2A2  
First Vice-President • Doug George, M. Eng., 25 Conover Street, Nepean, Ont. K2G 4C3  
Second Vice-President • Peter Ceravolo, Box 151, Oxford Mills, Ont., K0G 1S0  
Secretary • Randall Brooks, Ph.D., 2016 Woodglen Crescent, Gloucester, Ont. K1J 6G4  
Treasurer • Rajiv Gupta, Ph.D., 2478 West 1st Avenue, Vancouver, B.C. V6K 1G6 (604) 733-0682  
Recorder • Peter Jedicke, 82 Barrydale Crescent, London, Ont. N6G 2X4 (519) 471-4727  
Librarian • Walter MacDonald, B.Sc., 759 Glencairn Street, Oshawa, Ont. L1J 5B1 (905) 579-6615  
*Journal*/Editor • David Turner, Ph.D., Saint Mary's University, Halifax, N.S.  
Observer's Handbook Editor • Roy Bishop, Ph.D., Avonport, N.S. B0P 1B0  
**BULLETIN** Editor • Patrick Kelly, M.Sc., RR#2 Falmouth, N.S. B0P 1L0  
Beginner's Observing Guide Editor • Leo Enright, P.O. Box 196, Sharbot Lake, Ont. K0H 2P0  
Executive Secretary • Rosemary Freeman, 136 Dupont Street, Toronto, Ont. M5R 1V2  
Past Presidents • Damien Lemay, B.Sc., 3, 15e rue ouest, Rimouski, Qué. G5L 7Y4  
• Peter Broughton, M.Sc., A.R.C.T., 31 Killdeer Crescent, Toronto, Ont. M4G 2W7

## Calgary

- Centre Address • c/o Calgary Centennial Planetarium, P.O. Box 2100, Calgary, Alta. T2P 2M5  
Electronic Mail • rascexec@cuug.ab.ca  
Past President • Ruth Lewis, 712-34th Street N.W., Calgary, Alta. T2N 2X9 (403) 283-0670  
President • Rick Weis, 4612A 17th Avenue N.W., Calgary, Alta. T3B 0P3 (403) 286-4347  
First Vice-President • Roland Dechesne, 3740 Logan Crescent S.W., Calgary, Alta. T3E 5Z5 (403) 249-0136  
Second Vice-President • Mike Willie, 152 Cedarpark Green S.W., Calgary, Alta. T2W 2J9 (403) 281-2094  
Secretary • Susan Yeo, 3424B 2nd Street N.W., Calgary, Alta. T2K 0X9 (403) 276-9313  
Treasurer • Leonard Kampel, 31 Gissing Drive S.W., Calgary, Alta. T3E 4V6 (403) 242-8220  
*Starseeker* Editors • Rick & Carol Weis, 4612A 17th Avenue N.W., Calgary, Alta. T3B 0P3 (403) 286-4347  
Observatory Director • Jason Nishiyama, 621 17th Avenue N.W., T2M 0N6 (403) 289-9627  
Observer Group Director • Carol Weis, 4612A 17th Avenue N.W., Calgary, Alta. T3B 0P3 (403) 286-4347  
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- Centre Address • P.O. Box 842, Station 'B', London, Ont. N6A 4Z3
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## C. F. de Montréal (1993)

- Centre Address • C.P. 206, St. Michel, Montréal, Qué. H2A 3L9 (514) 728-4422
- Poste Electronique • ipp1804@infopuq.quebec.ca
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- Trésorier • Gilles Smith, 1832 St-Clement, Montréal, Qué. H1V 3E6 (514) 255-1758

- Editor • Jean-Pierre Urbain, 7744 St-Dominique, Montréal, Qué., H2R 1X7 (514) 272-5210
- Directeur des observations • Alain Roussel, 249 Couture Rosemere, Qué. J7A 2S2 (514) 437-4257
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### Ottawa

- Centre Address • P.O. Box 6617, Station 'J', Ottawa, Ont. K2A 3Y7
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- Poste Electronique • beaucham@phy.ulaval.ca
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- Bibliothécaire • Gilles Caisse, #305 3103 Avenue des Hotels, Ste-Foy, Qué. G1W 4W4 (418) 650-9501
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- Secretary • Wendy Hubelit, P.O. Box 20014, Cornwall Centre Postal Outlet, Regina, Sask. S4P 4J7

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Editor • Steve Szuta, #10-69 Kleisinger Crescent, Regina, Sask. S4R 6Z7  
National Council Representative • Ray Chomos, 1675 Shattuck Bay, Regina, Sask. S4X 9Z6 (306) 543-4722

## St. John's

- Centre Address • c/o Dennis Ryan, 74A Moores Drive, Mount Pearl, Nfld. A1N 3R4  
Electronic Mail • randy@kean.ucs.mun.ca  
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President • Fred Smith, 88 Cornwall Avenue, St. John's, Nfld. A1E 1Y9 (709) 579-7857  
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Director of Observations • Jim Selinger, 160 George Street, Sarnia, Ont. N7T 7V4 (519) 337-6815  
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Librarian • Jim Young, 1422-11th Street East, Saskatoon, Sask. S7H 0G6 (306) 343-0971  
Membership/Promotions • David Cornish, 503 Frobisher Crescent, Saskatoon, Sask. S7K 4Y8 (306) 242-7125  
Activities Coordinator • Sandy Ferguson, Suite 11, 238 Main Street, Saskatoon, Sask. S7N 0B5 (306) 931-3184  
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Secretary • Dave Galley, 214 Dennis Street, Thunder Bay, Ont. P7B 5H8 (807) 767-8388  
Treasurer • Dave Galley, 214 Dennis Street, Thunder Bay, Ont. P7B 5H8 (807) 767-8388  
Media • Doug Stuart, 403 Agate Bay, Thunder Bay, Ont. P7C 1T6 (807) 577-3943  
National Council Representative • Robert C. Bishop, 135 Hogarth Street, Thunder Bay, Ont. P7A 7H1 (807) 767-5689

## Toronto

- Centre Address • c/o McLaughlin Planetarium, 100 Queen's Park, Toronto, Ont. M5S 2C6 (416) 724-STAR  
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- Centre Address • c/o Gordon Southam Observatory, 1100 Chestnut Street, Vancouver, B.C. V6J 3J9  
Electronic Mail • skene@ucs.ubc.ca  
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### Victoria

- Electronic Mail • rasc@uvvm.uvic.ca
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- Secretary/Treasurer • Bill Almond, 354 Benhomer Drive, Victoria, B.C. V9C 2C6 (604) 478-6718
- Skynews* Editor • Betty Hesser, 1874 Ventura Way, Victoria, B.C. V8N 1R3
- Librarian • Sid Sidhu, 1642 Davies Road, Victoria, B.C. V9B 5T9
- Director of Telescopes • Sid Sidhu, 1642 Davies Road, Victoria, B.C. V9B 5T9
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### Windsor

- Electronic Mail • sheple6@server.uwindsor.ca
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- Assistant Secretary • Steve Pellarin, 3140 Parkwood Avenue, Windsor, Ont. N8W 2K4 (519) 966-0713
- Treasurer • John Hurley, RR#1 427 County Road 34, Essex, Ont. N8M 2X5 (519) 839-5565
- Assistant Treasurer • Frank J. Shepley, RR#2 344 South Middle Road, Maidstone, Ont. N0R 1K0 (519) 723-2389
- Aurora* Editor • Dave Marchand, 1460 Westminster Boulevard, Windsor, Ont. N8P 1W9 (519) 948-5930
- Aurora* Staff • Tim Bennett, RR#2 13003 Pinkerton Side Road, Essex, Ont. N8M 2X6 (519) 776-8901
- Director of Observing • Dan Taylor, RR#1, Essex, Ont. N8M 2X5 (519) 776-4493
- Assistant Director of Observing • Susan Sawyer-Beaulieu, 1112 Coachwood Place, Windsor, Ont. N9H 2G3 (519) 972-5516
- Director of Public Education • Randy Groundwater, 3400 Askin Avenue, Windsor, Ont. N9E 3J7 (519) 969-8552
- Librarian • Rob Hastings-Trew, 1704 Chilver Road, Windsor, Ont. N8W 2T6 (519) 252-0847
- Recorder • John McDermott, 1758 Marentette Avenue, Windsor, Ont. N8X 4E6 (519) 253-0407
- Councillors • Joan Bennett, Joseph Cambala, Randy Groundwater, David Hamilton, Robert Hastings-Trew, Henry Lee, Dave Marchand, Jim Meredith, Steve Pellarin, Dan Taylor
- National Council Representative • John Hurley, RR#1 427 County Road 34, Essex, Ont. N8M 2X5 (519) 839-5565

### Winnipeg

- Centre Address • Room 110, St. Paul's College, 430 Dysart Road, Winnipeg, Man. R3T 2M6
- Electronic Mail • cbrown@ccm.umanitoba.ca
- Past President • Stan Runge, 35 Cunard Place, Winnipeg, Man. R3T 5M1 (204) 261-9984
- President • Scott Young, P.O. Box 19, St. Germain, Man. R0G 2A0 (204) 254-4422
- First Vice-President • Jay Anderson, 189 Kingsway Avenue, Winnipeg, Man. R3M 0G4 (204) 474-1485
- Second Vice-President • Gil Raineault, 12 Greenmount Road, Winnipeg, Man. R2J 1T4 (204) 253-4989
- Secretary • Crandel Overton, 466 Sharp Boulevard, Winnipeg, Man. R3J 2L1 (204) 832-6639
- Treasurer • Chris Brown, 183 Canora Street, Winnipeg, Man. R3G 1T1 (204) 253-6392
- Editor • Andora Jackson, 595 Arlington Street, Winnipeg, Man. R3G 1Z6
- Librarian • Chris Rutkowski, P.O. Box 1918, Winnipeg, Man. R3C 3R2
- Councillors • Kevin Black, Andora Jackson, Chris Rutkowski, John Smith, Marianne Tschmier, Mike Wegner
- National Council Representative • Stan Runge, 35 Cunard Place, Winnipeg, Man. R3T 5M1 (204) 261-9984



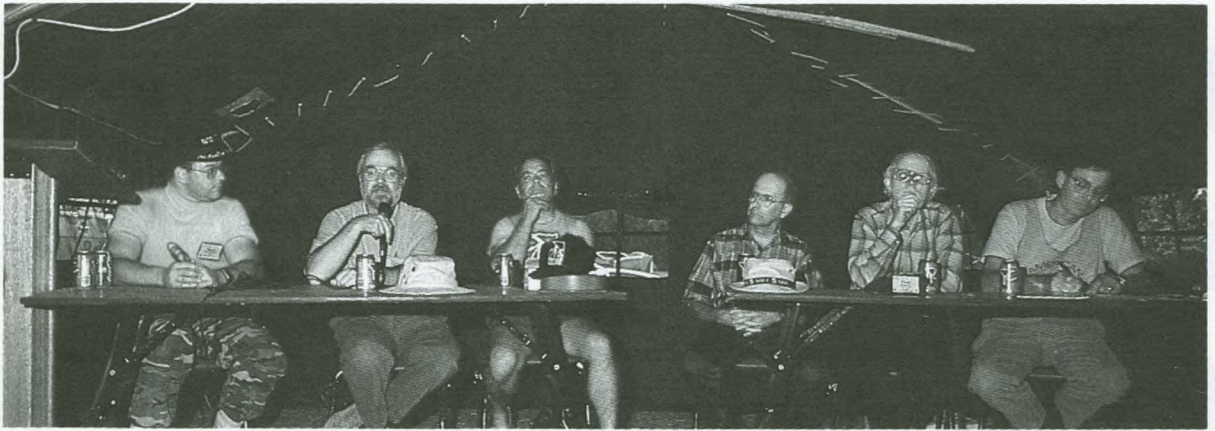
Centre Councils for 1995

# Centre Finances

	Calgary	Edmonton	Halifax	Hamilton	Kingston	Kitchener Waterloo	London	Montreal	C.F. de Montréal	Niagara	Ottawa
<b>REVENUE</b>											
Membership Fees (Regular)	\$6,080	\$4,764	\$3,188	\$2,061	\$2,016		\$1,008	\$3,163		\$2,160	\$6,804
Membership Fees (Basic Surcharge)	\$1,512			\$731	\$504		\$106	\$1,711			-
Membership Fees (Special Surcharge)	\$615	\$460			\$34						-
Life Member Grants	\$259	\$144	\$446	\$29	\$115		\$86	\$274			\$490
Donations	\$419	\$102	\$72	\$691	\$217		\$5,627	\$127		\$360	\$723
Fundraising	\$2,000	\$63	\$600				\$54				-
Educational Activities	\$1,467	\$225		\$279	\$84						-
Interest & Dividends	\$462	\$540	\$366	\$32	\$30		\$99	\$4,044		\$14	\$527
Sale Of Handbooks (Net)	\$156	\$5	\$253	(\$186)	\$102		\$45	\$41			\$166
Sale Of Calendars (Net)	\$343	\$70	\$44	(\$63)	\$127		\$30	(\$51)			\$132
Sale Of Beg. Observing Guides (Net)	\$110	(\$188)	\$60	\$78	\$85		\$21	\$19			-
Advertising	\$10			\$84							-
G. A. (inc. Travel Grants)	\$459		\$21		\$363						-
Miscellaneous	\$947	\$30	\$1,099	\$302	\$803		\$50	\$298		\$651	\$1,008
<b>Total Revenue</b>	<b>\$14,879</b>	<b>\$6,215</b>	<b>\$6,149</b>	<b>\$4,038</b>	<b>\$4,480</b>		<b>\$7,126</b>	<b>\$9,626</b>	<b>No Report Received</b>	<b>\$3,185</b>	<b>\$9,850</b>
<b>EXPENDITURES</b>											
Fees to National Office	\$3,729	\$2,797	\$1,903	\$1,323	\$1,188		\$605	\$1,898		\$1,050	\$4,163
Library	\$182	\$99			\$340			\$316			-
Meetings		\$171	\$181	\$193			\$166	\$56		\$252	\$2,211
Newsletter	\$1,932	\$1,226	\$994	\$1,348	\$413		\$69	\$223		\$559	\$1,156
Annual Dinner (Net)	\$14						(\$55)				(\$129)
G. A. (inc. Travel Grants)	\$638				\$363			\$622			-
Equipment & Supplies		\$4,139	\$786		\$352					\$592	-
Office Administration		\$171	\$427	\$465	\$306			\$750		\$366	\$433
General Expense & Audit	\$2,659	\$62		\$109	\$165		\$149	\$725			\$27
Educational Activities	\$410	\$739	\$125	\$342	\$481					\$296	-
Insurance	\$1,154	\$54		\$529							\$596
Awards & Donations	\$495	\$96	\$500		\$119		\$2,716			\$66	-
Observatory	\$1,576			\$482			\$259	\$1,030			\$540
Miscellaneous	\$2,314		\$175	\$70	\$15		\$23	\$494		\$108	\$77
<b>Total Expenditures</b>	<b>\$15,304</b>	<b>\$9,554</b>	<b>\$5,091</b>	<b>\$4,861</b>	<b>\$3,742</b>		<b>\$3,932</b>	<b>\$6,966</b>	<b>No Report Received</b>	<b>\$3,289</b>	<b>\$9,074</b>
<b>Surplus (Deficit)</b>	<b>(\$425)</b>	<b>(\$3,339)</b>	<b>\$1,058</b>	<b>(\$823)</b>	<b>\$738</b>		<b>\$3,194</b>	<b>\$2,660</b>	<b>No Report Received</b>	<b>(\$104)</b>	<b>\$776</b>
Balance from 1993	\$17,059	\$23,520	\$15,133	\$5,986	\$468		\$340			\$483	\$30,822
Balance to 1994	\$16,634	\$20,181	\$16,191	\$5,163	\$1,206		\$3,534			\$379	\$31,598

	Québec	Regina	St. John's	Sarnia	Saskatoon	Thunder Bay	Toronto	Vancouver	Victoria	Windsor	Winnipeg
<b>REVENUE</b>											
Membership Fees (Regular)	\$2,702	\$529	\$1,139	\$330	\$1,572	\$850	\$24,232	\$6,651	\$3,058	\$1,548	\$2,043
Membership Fees (Basic Surcharge)	-	-	\$124	-	\$172	-	-	\$1,433	\$168	-	\$703
Membership Fees (Special Surcharge)	-	\$59	\$25	-	\$35	-	-	\$1,077	-	-	-
Life Member Grants	\$20	-	\$58	\$14	\$72	-	\$1,195	\$205	\$331	\$43	\$14
Donations	\$114	\$159	-	-	\$665	-	\$2,829	\$20	\$15	\$1,485	\$270
Fundraising	\$683	\$152	\$584	-	-	-	-	\$26,746	-	\$1,416	-
Educational Activities	-	-	-	-	-	\$1,002	-	\$135	-	\$98	-
Interest & Dividends	\$4	\$3	\$99	\$3	\$50	-	\$1,993	\$304	\$578	\$4	\$59
Sale Of Handbooks (Net)	\$40	\$5	\$31	-	-	\$34	\$6	\$193	\$167	\$119	\$12
Sale Of Calendars (Net)	\$60	\$2	\$39	-	\$16	\$24	\$75	\$482	-	\$192	\$45
Sale Of Beg. Observing Guides (Net)	-	-	(\$182)	-	\$14	-	\$31	(\$102)	\$128	\$133	\$25
Advertising	\$325	-	-	-	-	-	\$150	\$240	-	-	-
G. A. (inc. Travel Grants)	-	-	\$35	-	-	\$300	-	-	\$485	-	-
Miscellaneous	\$907	-	-	-	\$61	-	\$7,737	\$4,550	\$1,068	\$204	-
<b>Total Revenue</b>	<b>\$4,855</b>	<b>\$909</b>	<b>\$1,952</b>	<b>\$347</b>	<b>\$2,657</b>	<b>\$2,210</b>	<b>\$38,248</b>	<b>\$41,934</b>	<b>\$5,998</b>	<b>\$5,242</b>	<b>\$3,171</b>
<b>EXPENDITURES</b>											
Fees remitted to National Office	\$1,077	\$316	\$686	\$238	\$967	\$510	\$14,510	\$5,584	\$1,873	\$929	\$1,126
Library	\$1,743	-	\$30	-	-	-	-	\$2,400	\$58	-	-
Meetings	-	-	\$99	\$60	-	\$30	\$2,032	\$2,037	-	\$181	\$132
Newsletters	-	\$28	-	-	\$677	-	\$6,954	\$2,878	\$1,345	\$671	\$540
Annual Dinner (Net)	-	-	-	-	-	-	\$388	\$126	-	\$185	-
G. A. (inc. Travel Grants)	-	-	-	-	-	-	-	-	\$746	-	-
Equipment & Supplies	\$950	\$330	\$154	\$24	-	-	-	\$7,772	\$916	\$249	-
Office Administration	\$340	-	\$36	-	\$120	-	\$2,799	\$246	-	-	\$8
General Expense & Audit	-	\$62	\$417	-	-	-	\$722	\$539	\$759	\$379	\$72
Educational Activities	\$175	-	\$56	-	\$56	\$1,682	\$1,526	\$340	-	\$58	-
Insurance	-	-	-	-	\$274	-	-	-	-	-	\$499
Awards & Donations	-	-	-	-	-	-	\$37	\$44	\$130	-	-
Observatory	\$450	\$196	\$254	-	-	-	-	-	-	-	\$211
Miscellaneous	\$846	\$47	\$31	-	-	\$10	\$8,377	\$2,341	-	\$661	\$9
<b>Total Expenditures</b>	<b>\$5,581</b>	<b>\$979</b>	<b>\$1,763</b>	<b>\$322</b>	<b>\$2,094</b>	<b>\$2,232</b>	<b>\$37,345</b>	<b>\$24,307</b>	<b>\$5,827</b>	<b>\$3,313</b>	<b>\$2,697</b>
<b>Surplus (Deficit)</b>	<b>(\$726)</b>	<b>(\$70)</b>	<b>\$189</b>	<b>\$25</b>	<b>\$563</b>	<b>(\$22)</b>	<b>\$903</b>	<b>\$17,627</b>	<b>\$171</b>	<b>\$1,929</b>	<b>\$474</b>
Balance from 1993	\$2,168	(\$751)	\$651	\$586	\$15,308	\$1,033	\$47,208	\$7,205	\$1,700	\$575	\$1,872
Balance to 1994	\$1,442	(\$821)	\$840	\$611	\$15,871	\$1,011	\$48,111	\$24,832	\$1,871	\$2,504	\$2,346

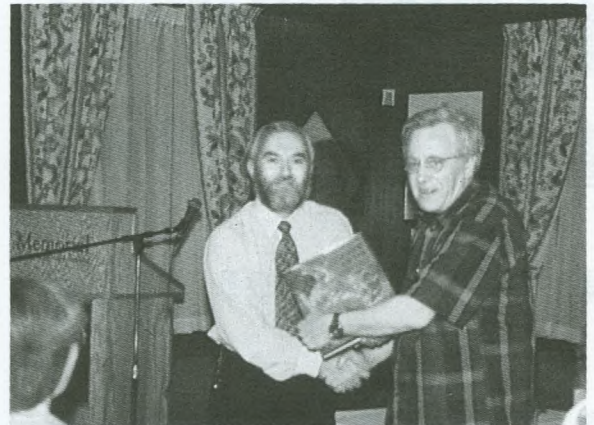
# Centre Finances



The Huronia Star Party is hosted by the South Simcoe Amateur Astronomers. One feature was a panel discussion entitled "Astronomy is Good For You, Pass it On". From left: Henry Van Bommel (SSAA President), Terence Dickinson, Steve Dodson, Roy Bishop, Paul Delaney (York University) and John Hicks. Photo by Dale Armstrong.



At the St. John's GA, Peter Broughton presented Mel Rankin of the Edmonton Centre with the Service Award Medal. Photo by Leo Enright.



Fred Smith, St. John's president presents Dr. Brian Payton with the GA banquet door prize. Earlier Dr. Payton had given a hilarious talk on the subject of leeches, including the long-suspected and finally-proven giant Newfoundland leech. Photo by Leo Enright.



Randy Dodge of the St. John's Centre receiving the Service Award Medal. Photo by Leo Enright.



Gar(r)y Dymond of the St. John's Centre receiving the Service Award Medal. Photo by Leo Enright.



Dr. Grant Hill receiving the Plaskett Medal at the General Assembly from Peter Broughton. Photo by Leo Enright.

**Tinkham & Associates**  
 CHARTERED ACCOUNTANTS

C.J. Tinkham, C.A., C.M.A.  
 D.C. Tinkham, F.C.M.A., C.M.A., F.C.A.  
 P.J. Bratkeby, R.R.A., C.A.

2842 Bloor Street West, Suite 305  
 Toronto, Ontario, Canada M8X 1R1  
 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, 1994 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 company as at December 31, 1994 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.

*Tinkham & Associates*

TORONTO, Ontario  
 February 14, 1995

CHARTERED ACCOUNTANTS

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
 LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
 BALANCE SHEET  
 AS AT DECEMBER 31, 1994

A S S E T S

	1994	1993
<b>CURRENT</b>		
Cash and short term investments	\$ 189,098	\$ 118,401
Accounts receivable	13,483	35,452
Prepaid expenses	2,000	1,897
Accrued interest receivable	3,887	11,258
	<u>208,468</u>	<u>167,008</u>

**SPECIAL PURPOSE FUNDS (Schedule C)**

Cash and short term deposits (including accrued interest)	64,093	80,512
Guaranteed investment certificate	<u>110,000</u>	<u>101,600</u>
	<u>174,093</u>	<u>182,112</u>

**CAPITAL ASSETS**

Office building, furniture, equipment, library (nominal value)	<u>1</u>	<u>1</u>
	<u>\$ 382,562</u>	<u>\$ 349,121</u>

L I A B I L I T I E S

<b>CURRENT</b>		
Payables and accrued charges	\$ 23,287	\$ 5,923
Deferred revenue	32,768	30,599
Membership fees for ensuing year	24,618	23,515
Journal subscriptions		
Unamortized life membership fees (Schedule A)	<u>32,692</u>	<u>33,512</u>
	<u>113,365</u>	<u>93,549</u>
	<u>174,093</u>	<u>182,112</u>

**SPECIAL PURPOSE FUNDS (Schedule C)**

EQUITY	95,104	73,460
	<u>\$ 382,562</u>	<u>\$ 349,121</u>

On behalf of the Council of the Society

*Stephen J. Hildebrand* President

*Walter G. Hildebrand* Treasurer

Accounting principles - Note 1

*Tinkham & Associates*

# National Finances

# National Finances

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
STATEMENT OF REVENUE AND EXPENSE AND EQUITY  
FOR THE YEAR ENDED DECEMBER 31, 1994

	1994	1993
<b>REVENUE</b>		
Membership fees		
R.A.S.C. Centres	\$ 45,145	\$ 39,338
Individual members	18,297	19,814
Life membership: annual appropriation	<u>1,720</u>	<u>1,764</u>
	65,162	60,916
Grants and Donations		
Government of Canada-annual grant	3,000	5,000
Miscellaneous donations	<u>698</u>	<u>3,225</u>
	3,698	8,225
Net publication revenue (Schedule B)	<u>30,750</u>	<u>20,291</u>
Miscellaneous income		
Interest on investment	12,649	17,109
Insignia sales and annual meeting	445	2,266
Rent	<u>13,467</u>	<u>13,417</u>
	26,561	32,792
	<u>126,171</u>	<u>122,224</u>
<b>EXPENSE</b>		
Office salaries and employee benefits	45,223	43,639
Postage and shipping expense	8,637	5,317
General and office expense	2,514	4,377
Stationery, printing and supplies	553	851
Life membership allotment to Centres	4,132	3,902
General assembly and travel expense	14,876	13,694
Professional fees	4,475	2,075
Insignia, medals and awards	666	729
Telephone	1,312	1,328
Insurance	3,550	3,384
Library expense	674	215
Office equipment purchases	1,249	78
Grant	-	1,426
Bad debts	851	961
Building expenses	<u>6,565</u>	<u>6,151</u>
	95,277	88,127
<b>EXCESS OF REVENUE OVER EXPENSE</b>	30,894	34,097
<b>EQUITY, January 1</b>	73,460	43,016
Less: Transfer to Endowment Fund	<u>(9,250)</u>	<u>(3,653)</u>
<b>EQUITY, December 31</b>	<u>\$ 95,104</u>	<u>\$ 73,460</u>

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THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
NOTES TO THE FINANCIAL STATEMENTS  
DECEMBER 31, 1994

**NOTE 1 ACCOUNTING POLICIES**

The significant accounting policies are summarized below.

(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.

(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.

**NOTE 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  
UNAMORTIZED LIFE MEMBERSHIP FEES  
FOR THE YEAR ENDED DECEMBER 31, 1994

	1994	1993
BALANCE, January 1	\$ 33,512	\$ 33,996
Add: Life membership fees received in the year	<u>900</u>	<u>1,280</u>
	34,412	35,276
Deduct: Amortization	<u>1,720</u>	<u>1,764</u>
BALANCE, December 31	\$ <u>32,692</u>	\$ <u>33,512</u>

SCHEDULE B  
PUBLICATION REVENUE AND COST OF SALES

R.A.S.C. PUBLICATION REVENUE	\$ 26,857	\$ 25,535
R.A.S.C. Journal : subscriptions	730	2,226
: reprints	10,754	18,557
: publishing revenue	<u>89,962</u>	<u>91,544</u>
Observer's Handbook	<u>128,303</u>	<u>137,862</u>
<b>COST OF SALES</b>		
R.A.S.C. JOURNALS		
Printing of Journal	38,638	44,183
Printing of Bulletin	17,186	17,061
Editorial assistance	1,000	1,000
Distribution costs	9,388	15,025
Reprints	<u>2,507</u>	<u>2,610</u>
OBSERVER'S HANDBOOK		
Printing	68,719	79,879
Distribution costs	20,379	28,631
Advertising	6,411	7,772
	<u>2,044</u>	<u>1,289</u>
	28,834	37,692
	<u>97,553</u>	<u>117,571</u>
NET PUBLICATION REVENUE	\$ <u>30,750</u>	\$ <u>20,291</u>

Tinkham & Associates

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
SCHEDULE C  
COMPOSITION OF SPECIAL PURPOSE FUNDS  
AS AT DECEMBER 31, 1994

	RUTH NORTHCOTT FUND	P.M.MILLMAN ENDOWMENT FUND	CEN- TENNIAL FUND	SOLAR ECLIPSE FUND	TOTAL
Cash	\$ 2,835	\$ 3,702	\$ 322	\$ 2,584	\$ 9,443
Term deposits	30,191	14,000	-	-	44,191
G.I.C.	9,000	110,000	-	-	119,000
Accrued interest	<u>1,459</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1,459</u>
	\$ <u>43,485</u>	\$ <u>127,702</u>	\$ <u>322</u>	\$ <u>2,584</u>	\$ <u>174,093</u>

Tinkham & Associates

# National Finances

The following society awards were made in 1994:

**Plaskett Medal**

Dr. Grant Hill (University of Montreal)

**Service Award Medal**

Randy Dodge (St. John's)  
 Gary Dymond (St. John's)  
 Mel Rankin (Edmonton)

**Messier Certificate**

T. Cameron (Calgary)	Paul Grey (Halifax)
Ben Gendre (Edmonton)	John Reppa (Halifax)
B. J. McCurdy (Edmonton)	Howard Simkover (Ottawa)
Douglas Sheldrake (Toronto)	

**Membership Certificate**

Bill Broderick (Kingston)	Valia Krotkov (Kingston)
Cyril Clark (Toronto)	D. V. Levin (Toronto)
Arthur Covington (Kingston)	W. J. Palmer (Toronto)
Rick DeRosa (Niagara)	Frank Scordino (Niagara)
Lisa Dickout (Niagara)	Marvin Scott (Niagara)
Charles Fassel (Niagara)	David Stokes (Kingston)
Dr. F.C. Hess (Toronto)	C. E. Thurgood (Toronto)
S. R. Kaplan (Toronto)	Bob Winder (Niagara)

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Calgary .....	5	Halifax .....	21
Edmonton .....	5	Hamilton .....	22
Halifax .....	6	Kingston .....	22
Hamilton .....	no report received	Kitchener-Waterloo .....	22
Kingston .....	7	London (1994) .....	22
Kitchener-Waterloo .....	8	C. F. de Montréal (1993) .....	22
London .....	no report received	Montreal .....	23
C. F. de Montréal .....	no report received	Niagara .....	23
Montreal .....	9	Ottawa .....	23
Niagara .....	9	Québec .....	23
Ottawa .....	10	Regina (1994) .....	23
Québec .....	11	St. John's .....	24
Regina .....	no report received	Sarnia .....	24
St. John's .....	12	Saskatoon .....	24
Sarnia .....	12	Thunder Bay .....	24
Saskatoon .....	13	Toronto .....	24
Thunder Bay .....	14	Vancouver .....	24
Toronto .....	14	Victoria .....	25
Vancouver .....	no report received	Windsor .....	25
Victoria .....	16	Winnipeg .....	25
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