



Supplement to the JOURNAL

of the **ROYAL ASTRONOMICAL**  
**SOCIETY** of **CANADA**

**ANNUAL REPORT 1989**

**APRIL 1990**

## PRESIDENTS OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

|           |                |           |                |
|-----------|----------------|-----------|----------------|
| 1890–1894 | C. Carpmael    | 1941–1942 | F.S. Hogg      |
| 1895      | L.W. Smith     | 1943–1944 | A.V. Douglas   |
| 1896–1897 | J.A. Paterson  | 1945–1946 | A.E. Johns     |
| 1898–1899 | A. Harvey      | 1947–1948 | J.W. Campbell  |
| 1900–1902 | G.E. Lumsden   | 1949–1950 | A. Thompson    |
| 1902–1903 | R.F. Stupart   | 1951–1952 | C.S. Beals     |
| 1904–1907 | C.A. Chant     | 1953–1954 | J.F. Heard     |
| 1908–1909 | W.B. Musson    | 1955–1957 | R.M. Petrie    |
| 1910–1911 | A.T. DeLury    | 1957–1959 | H.S. Hogg      |
| 1912–1913 | L.B. Stewart   | 1959–1960 | A. McKellar    |
| 1914–1915 | J.S. Plaskett  | 1960–1962 | P.M. Millman   |
| 1916–1917 | A.D. Watson    | 1962–1964 | R.J. Northcott |
| 1918–1919 | A.F. Miller    | 1964–1966 | K.O. Wright    |
| 1920–1921 | J.R. Collins   | 1966–1968 | M.M. Thomson   |
| 1922–1923 | W.E.W. Jackson | 1968–1970 | J.E. Kennedy   |
| 1924–1925 | R.M. Stewart   | 1970–1972 | H. Simard      |
| 1926–1927 | A.F. Hunter    | 1972–1974 | J.L. Locke     |
| 1928–1929 | W.E. Harper    | 1974–1976 | J.D. Fernie    |
| 1930–1931 | H.R. Kingston  | 1976–1978 | A.H. Batten    |
| 1932–1933 | R.K. Young     | 1978–1980 | J.R. Percy     |
| 1934–1935 | L. Gilchrist   | 1980–1982 | I. Halliday    |
| 1936–1937 | R.E. DeLury    | 1982–1984 | F. Loehde      |
| 1938–1939 | W. Findlay     | 1984–1986 | R.L. Bishop    |
| 1940      | J.A. Pearce    | 1986–1988 | M. Grey        |
|           |                | 1988–1990 | L.A. Higgs     |

## SECRETARIES OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

Corresponding Secretary 1890–1901; Secretary 1902–1919, General Secretary 1920–1949; National Secretary 1950 onwards.

|           |                |           |                 |
|-----------|----------------|-----------|-----------------|
| 1890–1899 | G.E. Lumsden   | 1935–1958 | E.J.A. Kennedy  |
| 1900–1902 | W.B. Musson    | 1958–1964 | J.E. Kennedy    |
| 1902–1917 | J.R. Collins   | 1964–1971 | N. Green        |
| 1918–1919 | W.E.W. Jackson | 1971–1974 | C.E. Hodgson    |
| 1920–1923 | A.F. Hunter    | 1974–1977 | D.J. FitzGerald |
| 1924–1927 | F.T. Stanford  | 1978–1980 | N. Green        |
| 1928–1931 | L. Gilchrist   | 1981–1987 | R.P. Broughton  |
| 1932–1935 | R.A. Gray      | 1987–     | D.A. Tindall    |

## HONORARY MEMBERS OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

|                                   |  |
|-----------------------------------|--|
| Dr. V. A. Ambartsumian (U.S.S.R.) | Dr. W. Iwanowska (Poland)              |
| Dr. R. B. Baldwin (U.S.A.)        | Dr. J. H. Oort (Netherlands)           |
| Dr. F. M. Bateson (N.Z.)          | Dr. Grote Reber (Australia)            |
| Dr. R. Hanbury Brown (Australia)  | Dr. A. R. Sandage (U.S.A.)             |
| Dr. A. Dollfus (France)           | Dr. Martin Schwarzschild (U.S.A.)      |
| Dr. Stephen W. Hawking (England)  | Dr. A. Unsold (Germany)                |
| Dr. Helen S. Hogg (Canada)        | Prof. H. C. van de Hulst (Netherlands) |

## REPORT OF THE PRESIDENT

The end of my two-year term as President of the Royal Astronomical Society of Canada is rapidly approaching, and it is with some regret that I am making my final written report. As our Society is now in its 100th year of incorporation (the Astronomical and Physical Society of Toronto was incorporated in March, 1890), it is appropriate to assess the state of the Society and the state of our science, astronomy. First of all, astronomy in Canada is now in a state of "anxious anticipation": financial restraint in the funding agencies still dominates the scientific scene, but plans for the future are actively being developed, awaiting funding opportunities. Canadian optical astronomers are looking towards a possible share in an 8-metre-class telescope, and radio astronomers are considering the research possibilities that a new large aperture-synthesis array might provide. In the area of space-borne astronomy, the launch of the Hubble Telescope is now only months away, and Canadian astronomers are actively becoming involved in the RadioAstron and Lyman space-astronomy missions. Moreover, the Sudbury Neutrino Observatory has now received the necessary funding and will soon become a reality. Despite the frustrations of this current period of severe restraint, we have much to look forward to. In the years ahead, the R.A.S.C. will undoubtedly continue to play a major role in promoting both the importance of astronomical research in our country, and the joys that observing the heavens can bring to everyone.

Our Society continues to maintain a membership in Canada and abroad well in excess of 3000 and, again this year, a new Centre has been added: the Regina Centre. As our Secretary notes in his report, it would be more appropriate to say that the Regina Centre has been welcomed back to the R.A.S.C. Although our Society still does not have Centres in all Canadian urban areas over 120,000 in population, we are approaching that target. Our Society is in a sound financial situation, and, I am sure, we can enter into our second century with confidence and pride.

In the past year, we have had several notable events. Dr. Roger Cayrel from the Paris Observatory marked the 10th anniversary of the Canada-France-Hawaii Telescope with his Helen Sawyer Hogg Public Lecture (co-sponsored by the RASC) at the CASCA meeting in Montreal. Also at that meeting, the second recipient of the Plaskett Medal (jointly awarded by the RASC and CASCA), Dr. Peter Leonard, was congratulated. The General Assembly of the RASC, hosted for the first time on behalf of unattached members of the Society, was a great success, and featured the Society's ninth Ruth Northcott Memorial Lecture, given by Prof. Wayne Cannon. Our Centres continue their sponsorship of public star nights, mall displays and public-information activities across the country. The growth of annual regional gatherings of amateur astronomers, some sponsored by the R.A.S.C. and all supported by our members, is notable (for example, the Mount Kobau Star Party in B.C., the Alberta Star Party, Starfest in Ontario, CAFTA in Quebec, and Nova East in the Maritimes). These may soon rival the well-known gatherings at Stellafane and Riverside in the United States.

As in most years, members of our Society have had notable achievements in 1989. In the area of observing accomplishments, David Levy discovered his fifth comet in August, 1989, and Doug George found his first in December (the fifth comet discovered with the 40-cm telescope of the Ottawa Centre). Our new Honorary President, Dr. Ian Halliday, has been recognized with the naming of minor planet 3944 Halliday. Another of our members, Terry Dickinson, has recently produced a new edition of his widely acclaimed book "Nightwatch", while Dr. John Percy, former editor of our "Observer's Handbook", has become President of the AAVSO. At our General Assembly in Nova Scotia, Father Lucien Kemble was awarded the Chilton Prize, Jack Newton received the Chant Medal, and our host, Raymond Auclair, was presented with a Service Award.

Administratively, it has been an exciting year, with the adoption of our new bylaws, a successful design competition for an RASC poster, and the institution of Society-wide liability insurance. In the coming months, we hope to revitalize our "special project" funding procedures and to make a real start on new initiatives to mark our centennial year. The fund-raising campaign that was started last year has been quite successful and we intend to continue it in the coming year.

I would like to take this opportunity to thank all of the members of the National Council for their efforts over the past year. Their hard work has made my job easy. In particular, I would like to thank two new members, Dr. Jeremy Tatum (Journal Editor) and Karl Miller (Treasurer) who have taken on particularly demanding roles. Of course, the effective and efficient operation of the national Society results largely

from the efforts of our Executive Secretary, Rosemary Freeman. We thank her for her untiring dedication in running the national office.

I have attempted to visit as many Centres across the country as has been possible during my Vice-Presidential and Presidential terms. Unfortunately I will not be able to visit you all, but I can assure you that if the enthusiasm and dedication I have seen in the 17 I have visited extends through all our Centres (and I'm sure it does), our Society has a splendid second century ahead of it.

LLOYD HIGGS, *President*

## REPORT OF THE NATIONAL SECRETARY

Once again I have the pleasure to report that we have added another Centre: The Regina Astronomical Society has become the 22nd Centre of the Society. Early in this century Regina became the first Centre outside Ontario, however, it died with the First World War. The Regina Astronomical Society was revived in 1950 and maintained its independent status for almost forty years. We are very pleased that they have now chosen to become the Regina Centre.

Another event which pleased me enormously was the passage of our new ByLaw Number One. When I became National Secretary, nearly three years ago, the process of re-writing the ByLaws was already well advanced. The Constitution Committee, under the capable chair of Michael Watson, worked diligently for a long time in order to produce a document we can all be proud of – a document to guide the operations of the Society through the Nineties and into the 21st Century.

1989 was also a memorable year because it was the first time that the General Assembly was not hosted by a Centre of the Society. On behalf of the unattached members Raymond Auclair (their unofficial leader) invited the Society to hold its meeting at the Coast Guard College in Sydney, Cape Breton. I'm sure that everyone who attended will agree that we had a splendid time, and any lingering doubts about holding a GA without a Centre were dispelled.

Overall membership numbers have shown a significant growth over last year. In fact, we have surpassed our all-time high of 3564 (reached in 1986 – the year of Comet Halley)! The membership figures as of September 30, 1989 are compared with those of the previous year in the following summary:

|                       |       |       |
|-----------------------|-------|-------|
|                       | 1988  | 1989  |
| Calgary               | 213   | 277   |
| Edmonton              | 136   | 123   |
| Halifax               | 138   | 171   |
| Hamilton              | 86    | 76    |
| Kingston              | 35    | 38    |
| Kitchener-Waterloo    | 32    | 30    |
| London                | 43    | 46    |
| CF de Montreal        | 43    | 38    |
| Montreal              | 103   | 123   |
| Niagara               | 64    | 81    |
| Ottawa                | 228   | 254   |
| Quebec                | 60    | 73    |
| Regina                | —     | —     |
| St. Johns             | 19    | 16    |
| Sarnia                | 8     | 12    |
| Saskatoon             | 45    | 42    |
| Thunder Bay           | —     | 40    |
| Toronto               | 1052  | 1022  |
| Vancouver             | 167   | 167   |
| Victoria              | 135   | 137   |
| Windsor               | 49    | 46    |
| Winnipeg              | 60    | 59    |
| Unattached to Centres |       |       |
| Canada                | 301   | 306   |
| USA                   | 306   | 351   |
| Overseas              | 62    | 58    |
| Honorary              | 14    | 14    |
|                       | <hr/> | <hr/> |
|                       | 3399  | 3600  |

It is my pleasure to thank our Executive Secretary, Rosemary Freeman, for all the hard work she puts in on our behalf. I should also like to record the appreciation of the Society for the work done by all those, too numerous to mention, who have worked on the Societies committees during the year without whom the Society could not function effectively.

DAVID A. TINDALL, *National Secretary*

## CALGARY CENTRE

Nine General Meetings were held in 1989.

|           |  |
|-----------|--|
| January   | Elections for Officers of the Centre. Members night.                   |
| February  | Dr. Lloyd Higgs: "Aperture Synthesis in RadioAstronomy."               |
| March     | Russ Sampson: "Lowell Observatory and the Mars Opposition."            |
| April     | Dr. Dennis Leahy: "X-Ray observations."                                |
| May       | Bill Peters: "History and Future Plans of the Alberta Science Centre." |
| June      | Dr. Alan Clark: Tour of the Rothney Astrophysical Observatory.         |
| September | Steve Rothfels: "Weather Forecasting."                                 |
| October   | Jack Newton: "Astrophotography."                                       |
| November  | Dr. Chris Stagg: "Where Comets Come From."                             |

Planning was begun in 1988 for Teachers Workshops in Astronomy, with a view to facilitating the reintroduction of Astronomy into the school science curricula. The first session was held in May 1989, and since then three additional sessions have been held, with a total attendance of around 120 teachers and other education professionals. In addition, six classroom visits have been put on. Three Introductory Astronomy courses, held in conjunction with the Department of Continuing Education, have introduced some 75 neophytes to the joys of the Universe. Many thanks go to Don Hladiuk, in particular, for his role on the Public Education Committee. Don also runs the CBC radio show (on at 06:50 on the first working day of every month) and he was instrumental in arranging for the live 24 hour broadcast of the Voyager Neptune encounter, courtesy of Rogers Cable TV and J. R. Electronics of Calgary. Attendance at our semiannual Fish Creek Park Public Star Nights was most satisfactory, averaging more than 750 visitors despite less than perfect weather conditions. This year our Wilson Coulee Observatory received 21 tours of classroom groups, Scouts, and others.

The Calgary Centre became an Institutional Member of the International Darksky Association in 1989. John Mirtle, after having won several astrophotography prizes at the Mount Kobau Star Parties in recent years, was promoted to Judge of the astrophotos this year (to give everyone else a chance at the contest). The minutes of the Council and General meetings are being written out in more depth this year, so that excerpts can be included in the Starseeker newsletter. Our NetNorth node has proved most useful in this regard, as editor Bob Loblaw can download material to his own computer, at his leisure, that has previously been stored on the disks. Longtime, and very active member Bill Krosney, and his wife Luba, left Calgary for Winnipeg this past summer. We will miss them, but wish them the all the best in their new Centre. Lucian Kemble, winner of the Ken Chilton prize in 1989, has also moved east (to Lumsden, Saskatchewan), but remains a member of the Calgary Centre. The membership of the Centre has approved a plan to purchase a C-14 telescope for installation in our observatory.

GLENN HAWLEY, *Secretary*

## EDMONTON CENTRE

The year 1989 was marred for Edmonton Centre members by the passing of Mrs. Audrey Loehde, centre Social Convener and wife of the centre's National Representative Franklin Loehde. She is remembered with affection and gratitude by the members of the Centre, to which she contributed in many ways for many years.

The Centre's annual meeting took place on January 15th; the new slate of officers for the year was approved, and awards were presented. The President's Award for service to the Centre was given to George Moores and his family; the Angus Smith Telescope Making Award was given to Bob Drew; and the Astrophotography Award was presented to Russ Sampson.

In early 1989, the finishing touches were made to the centre's redesigned lightweight 17.5 inch Dobsonian. The redesign was initiated by Bob Drew, and carried through by him with the assistance of Randy Pakan, Paul Campbell, Bill Wells, and many other members, to whom the members are grateful.

On October 27-29 1989, the centre held an Astronomy Workshop, which featured several guest speakers, whose talks were aimed at helping both beginning and advanced members to get the most out of their telescopes. The Workshop was a great success, despite weather which prevented observing.

Several Centre members attended Riverside, Mount Kobau, and the Alberta Star Party. The redesigned 17.5" club telescope earned awards at both Riverside and Mount Kobau, and at Mount Kobau member Randy Pakan won the top telescope making award for his own 12.5" f/4.3 Dobsonian, and Murray Paulsen won 3rd prize in astrophotography.

Several active members, Peter Ceravolo, Alister Ling, and Bryce Heartwell, moved out of Edmonton in 1989; also, Space Sciences Centre director Alan Dyer, who worked closely with the Edmonton Centre, moved to the U.S. to assume an Associate Editor position with *Astronomy* magazine.

### Meetings during 1989:

|           |   |
|-----------|---|
| January   | A talk on comet hunting by David H. Levy  |
| February  | Members' Night  |
| March     | Don Hladiuk (Calgary) on meteor/asteroid impacts on Earth   |
| April     | Dr. Douglas Hube debunked astrology   |
| May       | Mike Noble on beginning astrophotography  |
| June      | Members' Night  |
| September | Russ Sampson showed slides of historic sites in Britain and Czechoslovakia  |
| October   | Alan Dyer showed slides of the Mount Kobau Star Party and the C-F-H telescope<br>In a special meeting, Centre members had the opportunity to speak to Dr. Clyde Tombaugh, discoverer of Pluto |
| November  | Telescope making talks by several members<br>In a special meeting, Dr. Lloyd Higgs (National President) discussed aperture synthesis  |
| December  | Dr. Tim Gauss (Environment Canada) spoke on the ozone layer and global warming  |

JOHN SAVARD, *Secretary*

## HALIFAX CENTRE

The Halifax Centre has completed another very successful year with sustained membership and an increased cash surplus. Some of this surplus was used to upgrade the Centre's Celestron C8 telescope, which was out on loan to members continuously throughout the year.

The Halifax Centre Service Award was presented this year to Patrick Kelly for his continued efforts in producing our high-quality newsletter: "Nova Notes", which I am sure is envied by other Centre Newsletter Editors from coast to coast. Also honoured this year was Randall Brooks, who received his Ph.D. in Astronomy.

The main speakers were the highlight of the general meetings held at the Nova Scotia Museum on the third Friday of each month. Attendance has been very strong, with capacity crowds on many occasions (thank goodness the Fire Marshall isn't interested in Astronomy!). As can be seen by the list below, the lectures varied from those of a technical nature to those which were informative and sometimes humorous.

- January "A Comical Trip Through the Solar System" by Graham Millar and "How to use the Handbook" by Dr. Roy Bishop.
- February "A Demonstration of a Portable Planetarium Used by School Teachers" by Wilf Morley.
- March "On-going Globular Cluster Research" by Dr. Cameron Reed.
- April "Telescope Mirror Making" by Peter Edwards and Peter Freeman.
- May Annual Banquet: "Supernova 1987A" Two Years Later" by Walter Zukauskus.
- June Members Night: various talks and slides plus the annual "Trivia Contest".
- July/August Nova East 89: Annual camping observing weekend held in Fundy National Park.
- September "G.A. Report" by Dr. Randall Brooks and the "Nova East 89 Report".
- October Astronomy Day Meeting: "Stellar Power" by Dr. Roy Bishop and "The Size of the Universe" by Doug Pitcairn.
- November "Auroras on Venus?" by Harry Taylor (retired NASA scientist).
- December "Stellafane" by Dave Lane and Nat Cohen, "Dominion Astrophysical Observatory" by Dan Falk, "The Construction of the Bridgewater Astrophysical Observatory" by Dave Lane, and "The International Space University" by Shawn Munroe.

The highlights of the year included our annually sponsored Nova East "star party", and the National General Assembly held in Sydney. Nova East is becoming more popular every year, partly due to the excellent facilities offered at Fundy National Park in New Brunswick. It was well attended by our own members and the members of other astronomy clubs in the Maritimes and the North-Eastern United States. The society's commitment to public education in astronomy was upheld by providing public talks (in both English and French) and observing sessions for park visitors.

Many members, including myself, attended a GA for the first time this year. Although this year's GA was held in Nova Scotia, it was not sponsored by our Centre, the only Centre in the province, but rather by un-attached members led by the very capable Raymond Auclair and his staff at the Canadian Coast Guard College. Approximately 15 members from the Halifax Centre travelled to Sydney to attend a most enjoyable weekend. The only sad note was the Centre's second place finish in the "song contest"!

Members also travelled around the province to attend meetings of, and to present talks to, other astronomy clubs. These included Antigonish and Yarmouth.

A second monthly meeting for observing members was started this year. It is held about once a month in a host member's home, who selects the topic and provides the refreshments. The meetings have no formal agenda, and generally last until the host expels the members or when the food runs out, whichever comes first! The attendance is usually between 8 and 12. It is hoped in the coming year that more novice members will attend, mainly to stop the President from spontaneously starting an executive meeting!

Observing sessions were unscheduled, again this year, with members normally presenting themselves on every clear moon-less night at the Beaverbank Observing Site north of Halifax. A public observing session was held at Oakfield Provincial Park for the Perseids Meteor Shower in August, but unfortunately it was clouded out, contrary to what Environment Canada was reporting! At the suggestion of Jim MacGuigan, we are planning to make this an annual public event.

The Halifax Planetarium was operating several public shows each month thanks to the efforts of many Centre members own donated their time. On the subject of planetariums; the Halifax Centre has started a committee to investigate the acquisition of a professional planetarium facility for Nova Scotia to replace the antiquated Spitz Model 2A projector presently in use. This committee is soon to become registered as a separate society, known as the "Nova Scotia Planetarium Advisory Committee".

DAVID LANE, *Secretary*



## HAMILTON CENTRE

This report covers the period January 1989 to September 1989, owing to recent changes to Hamilton Centre's bylaws.

The general meetings of the Hamilton Centre were as follows.

|           |  |
|-----------|--|
| January   | Annual meeting.  |
| February  | Dr. Doug Welch: "Infrared Astronomy and the Amateur Astronomer."   |
| March     | Mike DeVillaer and Paul Turcotte: "Enhancement Techniques for Deep-Sky Colour Astrophotography."   |
| April     | Dr. Dale Buchanan: "Bats."   |
| May       | Pat Cote – "Empirical Determination of Stellar Diameters."   |
| June      | Members' Night.  |
| September | Eric Golding: "The Occultation of 28 Saggiarius by Saturn's Rings."<br>Doug Welch: "Acquisition of a Photometer for the Centre."<br>Cathy Cresswell: Slides – "Starfest Activities – 1989."<br>Garry Woodcock: Derek Baker, Mike DeVillaer, Eric Golding: Slides – "The Lunar Eclipse of August 1989." |

On January 5th, the membership of the Hamilton Centre voted unanimously to accept a new Bylaw Number One. An initial change would alter the fiscal year of the Centre and therefore shorten the term of office for the 1989 Board of Directors. Henceforth the Centre's annual meeting will be held in October. The new bylaws were a result of many hours' work by the Centre's Bylaws Committee, Toni Quinn, Sohail Umar-Khitab, Eric Golding and Pauline Wright. The streamlined format should offer concise reference for the future operation of the Centre.

The Centre's two awards, the William A. Fautley Trophy, and the Gordon Craig Award were presented to Bert Rhebergen and Bruce Collier respectively. Bert's contribution is well known, as he is ever-present at the observatory helping others with their observational techniques with his pragmatic approach. Bert was also presented with his R.A.S.C. Messier Certificate in September. Bruce's recognition is also for efforts toward the area of sharing observational knowledge. His well-researched and illustrated series of articles published in ORBIT dealing with planetary observing and aspects of visual perception were a fine literary achievement.

Curator Barry Sherman has installed a recently donated 80 mm finderscope on the 17.5" equatorial. A donation by the parents of the late Ian Stuart has augmented the observatory's complement of telescopes with the addition of a fully equipped C8 and a 60 mm refractor. These instruments are now available for use by the members. A memorial fund has been instituted in Ian's memory to provide the funds to maintain the Centre's collection of up-to-date publications. The library itself will be known as the "Ian William Muirhead Stuart Library".

The NFAAAA was hosted on May 6th. The several interesting paper sessions were concluded with a sumptuous banquet, a talk given by Dr. Doug Welch and a casual visit to the observatory by several of the guests. Good attendance helped make this event a successful and enjoyable occasion.

Now – finally, after months of planning and the co-operative effort of many, the Leslie V. Powis Hamilton Centre Observatory has toilet facilities. The new structure, in the form of a privy-vault, features double amenities and two skylights. The funds for the project came from a donation to the Centre in memory of William A. Fautley.

This was an active and successful year for observing, as members took part in several events. The breathtaking occultation of 28 Sgr by Saturn's ring system and August's spectacular lunar eclipse were among the major events, along with members' own ongoing programmes. R.A.S.C. and Centre publicity and public education received a boost from newspaper articles, and media interviews by Derek Baker to inform the public on the lunar eclipse.

Several Hamilton Centre members attended Starfest this year and reported a most enjoyable time with the highlight being the Neptune Encounter broadcast and Teleconference.

Second Vice-President Pauline Wright reports another successful fund-raising drive as the May garage sale, hosted by President Sohail Umar-Khitab, added substantially to the Centre's operating funds.

The Hamilton Centre can now boast the acquisition of a photometer for the use of its members. With expert guidance and instruction from Doug Welch, it is expected that we will soon be taking accurate readings of variable stars for submission and/or personal research projects.

Eight first-quality issues of ORBIT were produced to date, including a special summer edition. Derek Baker and his dedicated crew along with the many supporting contributors can feel justly proud of a job well done.

Once again, it is apparent that whatever project is embarked upon by the Hamilton Centre, the members have generated natural enthusiasm and a spirit of co-operation. That this is so, is to be seen in the accomplishments of the year, and of the years.

ERIC GOLDING, *Secretary*

### **KINGSTON CENTRE**

1989 was, as the previous year, a very exciting and interesting time for the Kingston Centre of the R.A.S.C. Our year got off to a start with a visit from Michael Csuzdi and a presentation of his theory on Repulsion Forces in Planetary Landmasses, leading to continent formation. Next was a visit from a local writer and amateur astronomer Terence Dickinson, who spoke of a recent visit to Australia and showed slides taken from the southern hemisphere. March saw a slide show and talk from our president, Denise Sabatini and husband Leo Enright, on a winter trip to the Kennedy Space Centre. In April Denise spoke to us again, on the ancient cultures of the Mayas with regard to astronomy.

In May Walter MacDonald showed us an astronomy program he has on his computer, which among other things, contains the N.G.C. & S.A.O. catalogues. June was an open discussion about light pollution, followed by a slide presentation from Stanley Hanna. In July, Leo showed a series of slides of the Voyager fly-by of Jupiter & Saturn to whet our appetite for its coming encounter with Neptune. August was a very interesting month with a visit from Mike Jefferson of the Hamilton centre giving us tips on buying a telescope, the total lunar eclipse, member David Levy co-discovering yet another comet. Comet Okazaki-Levy-Rudenko 1989r, and the famous Voyager fly-by of the planet Neptune.

September was members' night to present anything they wanted, and we had a good selection of photos and slides. October saw Joady Ulrich present "Astronomy on Canvas", with highlight of the month being the Centre co-sponsoring a visit and talk from Clyde Tombaugh the discoverer of Pluto. November was special, as we were visited by our National President Dr. Lloyd Higgs, who spoke to us on Radio Astronomy. December came, and so did our annual business meeting and another visit from John Griese III speaking on two recent visits to Hungary and what amateur and professional astronomers are doing in that country. So, as you can see 1989 held lots of enlightening speakers, great slides and photos, new discoveries, and good fun!

ELDON ADAMS, *Secretary*

### **KITCHENER-WATERLOO CENTRE**

Continuing the trend of recent years, 1989 saw the Kitchener-Waterloo Centre becoming more active and involved. In addition to hosting several public star nights, the centre planned the construction of a new Dobsonian telescope, and continued renovations to the 12.5" reflector at Ayr.

As in past years, public star nights occupied a prominent place in the Centre's schedule. Paul Bigelow continued to hold star parties for the K-W Field Naturalists, and the Centre dealt with several school groups in 1989. Public star nights were held at Waterloo's Breithaup Park, and Kitchener's Knollwood Park. While weather interfered at times, 1989's public star nights were enjoyable for the members, and rewarding for the public.

On June 24, the Centre held its annual picnic at Ayr. The afternoon was divided between discussing astronomy, and doing some repair and maintenance work on the site. Though the afternoon had been stormy, the clouds parted for a good night of observing.

As always, several club members packed their telescopes and tents and headed for Mount Forest, Ontario and Starfest '89. This year's Starfest was particularly memorable for the live television coverage of the Voyager-Neptune encounter.

From September 29 to October 1, the Centre participated in the Midwestern Ontario Leisure and Hobby Show. The Centre operated a booth for the duration of the show which featured a mirror-grinding display by Jeff Brunton. The Centre also treated visitors to views of sunspots, Venus, and Saturn through telescopes outside.

Among the more notable changes made in 1989, the Centre has a new meeting format. The main presentation now takes place during the first hour of the meeting, with centre business and general discussion left for the remaining hour. The new format has helped immensely in keeping our meetings on schedule. Also new this year is the club membership kit designed by Alan Paeth. The kit includes a Members Handbook (with a brief history of the Centre), a membership list, and directions to meetings and the observatory. Finally, the Centre has a new logo thanks to John Rayburn, who won a design competition in November.

Renovations to the Centre's 12.5" reflector at Ayr continued in 1989. The new secondary mirror had just been collimated as the year began. By late September, a major milestone in the renovations was reached, as Mike Gore finished construction of the stepper motor. As the year drew to a close, a redesign of the telescope's drive was complete, and funds were committed towards its construction. In this respect, the Centre is greatly indebted to Herb Schilling, Herb not only designed and built the original telescope and mount, but has largely been responsible for the current work on the drive. With Herb's handiwork, renovations should be completed in 1990. Along with the planned portable Dobsonian telescope, the Centre will be well-equipped, indeed, for the 1990's and beyond.

To close the year, the Centre held its annual Christmas party at Ray Koenig's home on December 15. 1989 had been a busy but rewarding year for the Kitchener-Waterloo Centre. We look forward to an equally exciting 1990.

JONATHAN DOUPE, *Secretary*

## LONDON CENTRE

The London Centre has been very busy this year, expanding upon various programs and activities initiated in 1988. One of the key ingredients has been a series of Members' Nights in which everyone present can participate in and contribute to the programs. They can describe particular projects of their own, show their astrophotographic endeavours, or simply engage in general discussions on a variety of topics of concern to the Centre.

Last year we purchased an Odyssey-8 telescope which is available to all members, and it has been in constant use throughout the year. We still have problems trying to locate suitable observing sites near the city. London is expanding rapidly and new housing developments and shopping plazas with dazzling light displays drive us further and further afield in search of dark areas to set up shop. The Centre's Observers' Group has been very busy looking for suitable sites and holding star parties for various groups. Volunteers among our members have staged star nights for Guides and Scouts and the general public in conservation areas and parks. Early in September we staged a star party for the public schools of neighbouring Byron, and although the weather was not very co-operative the youngsters showed a keen interest in our telescopes and in a slide presentation of Voyager's journey to the planets.

During the year we were privileged to hear a number of excellent guest speakers on a variety of topics, and some of our own members provided interesting programs as well. The following is a list of these events:

- January Frank Paquet: described his trip to Washington, DC.
- February John Rousom: "Solar Observing".
- March Peter Jedicke: "Astronomy News of the World."  
Annual Banquet. Guest speaker Dr. Patrick Mann, U.W.O. Astronomy Dept.,  
"SS433 – A Black Hole Candidate"

- April Andreas Gada, North York Astronomical Association, "Starfest".
- May Member's Night. Joseph O'Neil: "construction of a small refractor".
- June Member's Night. General discussion of Centre's goals and plans for the immediate future.
- July Observing session at the Hume Cronyn Memorial Observatory, U.W.O.
- August Joe O'Neil: "Stellafane".  
Special observing session to view the Total Lunar Eclipse.
- September Terence Dickinson, a well known science journalist, "Voyager Encounter with Neptune", held at the London Children's Museum and open to the public.
- October Dr. Philip Stooke, U.W.O. Geography Dept., "History of Mapping Solar System Objects".
- November Dr. Lloyd Higgs, National President RASC, "The Magic of Aperture Synthesis".
- December Member's Night. Joe O'Neil lead an informal discussion.

In addition to the formal meetings described above, Centre members journeyed to various sites to observe the Perseid meteors, the lunar eclipse, the occultation of 28 Sag by Saturn, and other objects. One of our most active members, Steven Sharpe, surpassed over 50,000 lifetime variable star observations. During the year, the Chairman of our Observers' Group, Dan Trembley, was recognized for his services to the Centre with the Merit Award.

Volume 21 of the Centre newsletter, *Astronomy London*, was aptly put together by Editor Eric Clinton, now in his twelfth year as publisher. In addition to over 140 pages of *Astronomy London*, a special issue was created which describes the Society and London Centre and is handed out at public meetings and events.

In the coming year the club is preparing a project to commemorate the 100th anniversary of the Society. A new refractor, build by our President, Joe O'Neil, will be readied for use by the membership. Plans are afoot for the continuation of Members' Nights and invitations extended to various guest speakers.

GRANT CARSCALLEN, *Executive Secretary*

## CENTRE FRANCOPHONE DE MONTREAL

En 1989 notre centre comptait 38 personnes, dont 2 membres à vie et 1 junior. M. Jean-Pierre Urbain, président, a représenté nos membres lors du conseil d'administration tenu à Toronto en janvier 89 alors qu'à l'assemblée générale annuelle à Sydney N.E., Marc Gélinas représentait le Centre. Au congrès annuel, Jean-Pierre Urbain, Marc Gélinas et Raymond Auclair ont présenté une conférence sur le voyage astronomique, des amateurs canadiens, en URSS en 1988. Marc Gélinas qui exposait des travaux sur Mars, s'est mérité le prix d'exposition dans la catégorie planétaire.

Une activité important à souligner durant l'année se terminant au 31 août 1989, est la visite astronomique en U.R.S.S. Organiser sous l'égide de la Société d'Astronomie de Montréal, ce voyage a permis à neuf personnes de se familiariser avec l'astronomie soviétique. A chacun des sept sites visités, nous avons remis divers souvenirs à nos hôtes, dont un Observer's Handbook et des insignes aux armoiries de la S.R.A.C. Ces petits souvenir ont été très appréciés.

Plusieurs conférences importantes ont été présenté à nos membres durant l'année: Dr Robert Lamontagne, U de M, "L'astronomie en UV, une autre fenêtre sur l'univers"; Dr Antony Moffat, U de M, "Les grands télescopes du Chili et le VLT"; Dr Georges Michaud, U de M, "Le lithium dans les étoiles"; Dr Gilles Fontaine, U de M, Les mouvements de la Terre"; Dr René Racine, U de M, "La mesure de la Galaxie"; Dr Gilles Beaudet, U de M, "La supernova 1987A"; Dr Daniel Nadeau, U de M "Les lentilles gravitationnelles"; Pierre Lacombe M.Sc, Planétarium Dow, "L'astronomie science multidisciplinaire"; Dr François Wessemal, U de M, "Le choix des sites astronomiques". De plus une vingtaine de causeries ont été présenté par des membres lors des réunions ordinaires.

La Conférence Helen Hogg, qui se tenait en juin à Montréal, a été un échec. Il semble que personne n'ait songé à aviser notre Centre de l'évènement. Les amateurs, premiers visés par la Conférence Helen Hogg, n'ont pas été invités, résultat, la conférence s'est donnée dans l'anonymat. Le plus regrettable c'est que

pour une fois cet évènement se déroulait en français et aurait pu permettre à la S.R.A.C. de se faire connaître au Québec. Un autre rendez-vous manqué avec l'histoire.

L'observatoire de la S.A.M. a reçu la visite des voleurs au printemps 89 et ceux-ci sont reparti avec le télescope Celestron-8 de l'observatoire et divers équipements, comme le variateur de fréquence. Ce télescope était d'une modèle datant des années ou le C-8 était rouge.

Le concours annuel de fabricants de télescopes amateurs (CAFTA) n'a pas été tenu en 1989. Par contre il a été remplacé par une journée "portes ouvertes" à nos locaux du Centre Saint-Mathieu à Montréal. La journée internationale de l'astronomie en mai nous a permis de montrer nos réalisations au public lors d'une exposition organisé par le Planétarium Dow.

Le bulletin de liaison s'adressant aux membres a pris un tournant nouveau en 1989. Il porte maintenant le nom d'AstroNotes et Jean-Pierre Urbain en est l'éditeur. Nous avons pris un numéro ISSN pour officialiser la publications. D'autre part les membres participent plus que jamais à la réalisation de la revue provinciale LE QUEBEC ASTRONOMIQUE. Le Bulletin de la S.R.A.C. a recruté Marc A. Gélinas pour le poste de rédacteur francophone en remplaçant de Damien Lemay. Le changement s'est fait lors du congrès annuel.

L'Annuaire Astronomique pour 1990 a été grandement amélioré. Il contient maintenant 172 pages dont le plus part est du matériel original. L'apparence a été particulièrement soigné. Sensiblement différent du Observer's Handbook, l'Annuaire et le Handbook sont deux ouvrages qui se complètent bien.

En novembre 1989 un nouveau conseil d'administration de la S.A.M./Centre Francophone de la S.R.A.C. à Montréal a été élu. On retrouve Jean-Pierre Urbain à la présidence (deuxième année), Gilbert Ouellette à la vice-présidence (première année), Marc A Gélinas est secrétaire et Gilles Smith trésorier., Roger Lebrun est conseiller.

MARC A. GÉLINAS, *secrétaire*

## MONTREAL CENTRE

As the Montreal Centre enters the last decade of this exciting century, our members can look back with satisfaction to a very productive year. As one of our members put it, "We have not seen such activity since the Williamson Era." Consequently, it will be impossible to cover all events and list all contributors to our success in a report with limited length.

The "Master Plan" introduced by our president, Mario Caluori, on our November 88 annual meeting has certainly transformed into the following actions.

The physical appearance of the Centre has completely changed by a cleanup and by painting and reorganizing the basement which was the combined effort of several members.

After replacing and repairing some equipment, an equipment fund was set up to cover future purchases. We implemented a popular telescope rental system with the proceeds going to the equipment fund. We were fortunate to get a 4" brass refractor and having it cleaned and restored by Bert Widdop. It was donated to us with stand, carrying case and eyepieces and we are very grateful to the family of the late Charles Good for their generosity.

In the beginning of the fiscal year we had approximately 115 members. A membership survey was carried out to find interests, special skills and equipment. This survey resulted in significant gains for our Centre.

Our director of observation, Louie Bernstein booked the Saturday night talks including such diverse and fascinating topics as Occultations, Daytime Astronomy, Computer Enhancement of Astrophotographs, just to mention a few. Attendance to these talks has significantly improved due also to the change to weekly meetings instead of the previous Wednesday and Saturday schedule. Constellation studies were also organized by Louie Bernstein. These took place in the Dow Planetarium where Louie is the new host of the show for the public as well.

Mario Caluori initiated a Galileo Study Group with the objective of rediscovering the Universe by observations and thereby understanding the road that led to the scientific discoveries of the ancient astronomers.

We extend our special thanks to all our lecturers and to Jimmy Letorneau, our publicity director, who arranged some of the lectures. On March 31 we had Mr. D. Keys of Spar Aerospace, Montreal with an excellent talk on satellite progress and a superb movie of a complete shuttle mission. Our yearly Townsend lecture took place on June 7 with a full house. Mr. Jean-Pierre Leduc, manager of Simulation Facility, N.R.C. of Canada discussed Canada's role in the proposed space station.

We are fortunate for having a vice-president, Dr. Anthony Moffat, an internationally known professor of astronomy at L'Université de Montreal who gave three excellent presentations with slide projections on the following topics: The Observatories of Chile, The Future of X-Ray Astronomy and on his working trip to the Soviet Union, titled: Polarimetry and Perestroika. Naturally, David Levy, a one-time member and a friend of our Centre, also had an artistic audio-visual presentation with music, on the topic of his new book: Variable Stars. David, who has five comet discoveries to his credit, was also instrumental in arranging Clyde Tombaugh's visit to the Centre and his talk at L'Université de Montreal in October 89. When Dr. Tombaugh was asked why he chose the name Pluto, he said, "It was so "doggone" hard to find, I did not "planet" that way".

On May 13 we had our Astronomy Day. Inside the Observatory there was activity on all three levels. Outside solar observations and sketching of sunspots were carried out with Louie Bernstein and Burt Widdop. Over one-hundred visitors, many of them school children, attended and the event was covered by CFCF-TV as were two other highlights of the year: Dr. Tombaugh's visit and our observation outing to Ormstown during the lunar eclipse.

There were other field trips for observational and photographic purposes and our Messier Club – founded by Miss Isabelle K. Williamson of the Montreal Centre in 1943 – is still going strong.

Ron Pow was our representative to the G.A. at Sydney, Nova Scotia. He and the other participants from our Centre thoroughly enjoyed the varied and efficiently organized activities of this event. Raymond Auclair, Capt. E. J. Kelly and the Canadian Coast Guard College deserve full credit for making this G.A. one of the best.

Stellafane '89 was attended by several of our members and we also organized our annual visit to Mont Mégantic.

Besides attracting well known personalities for our lectures, we tried to cater to the "small fry" of our city. During Astronomy Day our young visitors had a chance to sketch sunspots and test our telescopes and see a slide show on the Solar System, produced by a Grade Five student in Hampstead School, Montreal. On November 25th over fifty eager school children "invaded" our Centre and enjoyed observational and other activities. Louie Bernstein and Ron Pow organized school visits with daytime astronomy activities and slide shows. These visits became so popular that other schools followed and we already have more demands for follow-ups for this year.

Our monthly newsletter, Skyward, also went through transformation. Thanks to our new editor, George Ascroft, our graphic artist Khurram Syed, Paul Biro and Louie Bernstein, our paper took a new format utilizing Paul's Ventura software and Laser Printer.

In summarizing, as I said before, it would be impossible to name all members who contributed to this stimulating year. During the year we gained several very enthusiastic and talented new members. On behalf of the Montreal Centre, I wish to extend our gratitude to all our members and visitors who were instrumental in achieving a successful and exciting 1989.

As our late president, Bill Cadloff put it, "... a spirit of co-operation should offset the ravages of time and disseminate an interest in astronomy."

MARITZA BERGER, *Secretary*

## NIAGARA CENTRE

All regular meetings are held in the LaMarsh Room of the Niagara Falls Centennial Library, at 19:30 on the fourth Thursday of the month, except June, July and August.

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|-----------|---|
| January   | Annual Meeting; Reports from officers, election of new Directors. Guest speaker: Dr. Jack Mack, Buffalo. Topic: Supernova 1987A.  |
| February  | Speaker: Dr. D. Welsh, McMaster University Topic: Infrared Astronomy.   |
| March     | Speaker: Brent McCrackin, Niagara Centre Topic: The life cycle of the stars. Also: The sounds of the Universe, a Radio Astronomy sound recording, by Allan Dane.  |
| April     | Speaker: John McKay, North York Astronomical Association. Topics: Starfest '89, and Observing in California.  |
| May       | Speaker: Al Kolodziejczak. Topic: Quasars. Also: Dan Brauns Niagara Centre video.   |
| September | Members' Night – reports from various summer Activities, including Starfest '89, where 25 Niagara area people attended.   |
| October   | Speaker: Michael Jefferson, Hamilton. Topic: Astronomical Optics.   |
| November  | Speaker: Michael Watson, Toronto. Topic: The 1991 R.A.S.C. Solar eclipse expedition to Mexico.  |
| December  | A rare Holiday season meeting. Slide presentations: by Charles Fassel, on events of the 80's, with soundtrack; and what's coming up in the 90's? (ans.: the Hubble Space Telescope, for one) by Marvin Scott: slides from his collection, of Sun, Moon and Messier objects. by John Dekker: slides by Jack Newton and from his own collection. All this was unfortunately punctuated by power failures, lasting from 2 to 10 minutes. |

On Nov. 4 the centre held its annual NFAAAA/Niagara Centre Dinner at the Queenston Heights restaurant. Guest speaker was Dr. Lloyd Higgs, R.A.S.C. National President, speaking on: "The Magic of Aperture Synthesis."

In September, the centre assisted Dr. John Black of Brock University by supplying 6 telescopes with operators for his Astronomy classes' observing session.

Most of the planned observing nights in the spring were clouded out, but in the summer they were more successful. Two public Star Nights during the summer had a clear sky, the rest had not. The eclipse of the moon on Aug. 17 was well attended – about 200 visitors showed up in L.B. Pearson Park in St. Catharines.

The site originally chosen as the most favourable for our future Observatory has now shown some problems (development nearby) and we have to look farther away from the cities to keep the sky dark.

W. JUTTING, *secretary*

## OTTAWA CENTRE

The Ottawa Centre membership for 1989 totalled 254 members consisting of 219 regular (including 19 junior) and 35 life members. This represents a sizeable increase over the 1988 membership by 27 people.

*Centre Meetings:* The Council, with the valuable assistance of Rolf Meier, sponsored several well attended Centre Meetings during the year. These meetings are for members and the public. The year started with a fascinating talk by Bob Stevens of the Herzberg Institute of Astrophysics. He spoke about his SETI program which is being carried out at the Algonquin Radio Observatory. In February, the members came out to talk about their own observations during the recent spectacular apparition of Mars. The talks included drawings, photographs and discussions about this and other close approaches by Mars. In March, researcher and author, Clifford Cunningham gave a very revealing and current talk about asteroids entitled "Observing Asteroids with Big Telescopes".

Mars was again the centre of focus for our April meeting when an enthusiastic audience was entertained by Terence Dickinson who spoke about "Mars, Martians, and Little Green Men". In October, Clyde

Tombaugh gave a thoroughly enjoyable account of the history and events surrounding his discovery of Pluto. Over 80 members attended the Annual Dinner Meeting held in November. They were given an excellent talk by Stephen James O'Meara of *Sky and Telescope* magazine. The year concluded with a film night in December at the National Museum of Science and Technology.

*Observers' Group:* The monthly Observers' Group meetings were well attended by members and the public throughout the year. Thanks are due to the Chairman, Frank Roy, and to the Vice-Chairman, Max Stuart. Thanks are also due to the National Research Council for allowing use of their meeting rooms. Many members presented a tremendous variety of talks. Paul Boltwood and Malcolm Lambourne gave a detailed talk on a Charge Coupled Device camera they are building. Every month Paul Comision kept members informed about articles addressing topics on the 'cutting edge' of astronomy. He also presented a three part series of lectures on stellar evolution. Max Stuart and Fred Lossing started a telescope making workshop in the fall. Seven members are working on their own mirrors. The Centre was also treated to a fascinating talk by Istvan Horveth who described his teams' planned entry into the solar sail race to Mars in the 1990's.

At each Observers' Group meeting members also have the opportunity to browse through and borrow from the Stan Mott Library. It contains a very good collection of astronomical publications. Articles in *Astronotes* continued to inform and entertain readers thanks to the dedication of editor Doug George. During the year several members were interviewed on CBC Radio and on television. Member Richard Butt won the National R.A.S.C. poster design contest. Paul Comision was honored at years end by the Centres' Observer of the Year Award.

*Indian River Observatory:* Use of the site at IRO increased dramatically over 1988. Nine scheduled star parties, several group visits, the annual picnic and good publicity for the August lunar eclipse all contributed to the highest turnout in the last three years. Late in the fall major reconstruction of the clubhouse roof was carried out by members. The IRO radio telescope survey began in earnest with the installation of a computer to record digitized data. The work is being done by a team of members headed by Frank Roy.

The year was capped off by the discovery of *Comet Skorichenko-George* by Doug George, Past President of the Ottawa Centre, using the Centre's 16 inch telescope.

*Council:* Council met four times during 1989. At the January meeting of Council, the following committees were appointed; Astronotes, Dinner, Programme, Observatory, Constitution, Nominating and Awards, Membership, Activities and Facilities, General Assembly, and the Library. The passing of John Stairs, former President of the Ottawa Centre and former Chairman of the Observer's Group was noted with great sadness. Work continued on the Ottawa Centre Council Procedures Manual. Equipment for the Centre's loan library was purchased. This library, which gives members the ability to borrow equipment, such as a pair of binoculars or a small telescope, was named the Ted Bean Memorial Loan Library after a longtime member and friend of the Ottawa Centre.

The years' discussion on the new National Constitution is expected to be replaced by the evaluation of our own Centre Constitution in 1990. As well Ottawa will be hosting the Annual General Meeting of the R.A.S.C. on the July 1st weekend 1990. We look forward to seeing you in Ottawa this summer for this centennial celebration.

DEREK R. MacLEOD, *Secretary*

## CENTRE DE QUÉBEC

N'étant pas sujettes aux caprices de la météo, les conférences demeurent l'activité la plus régulière, attirant de 15 à 30 personnes et souvent de nouveaux membres qui ont alors l'occasion de rencontrer des astronomes amateurs expérimentés.

En 1989, le programme de conférences fut le suivant:

- janvier Jean-François Lallier : Le calcul des éphémérides astronomiques.
- février Clermont Vallières et Denis Martel : L'observatoire de St-Luc; un réflecteur de 40 cm.



- mars Mario Lapointe : Le jeu des constellations.
- avril Alphonse Tardif : Les supernovae.
- mai Jean-Rémy Duquette : Les quasars.
- septembre Dominique Beauchamp : La vie des étoiles.
- octobre Yvan Bourassa : L'observatoire du Mont-Mégantic.
- novembre Denis et Stéphane Potvin : Le polissage de deux miroirs de télescope.
- décembre Martin Rochette : La photographie avec une monture Dobson.

Le Centre de Québec compte de nombreux observateurs et photographes. Plusieurs ont récemment acquis des instruments de 8" et 10" et ont formé un Groupe d'observateurs pour partager leurs expériences et pour faciliter l'achat et le traitement de films. Parmi ceux-ci, Yvan Bourassa et Dominique Beauchamp ont produit une belle série de photos avec une caméra Schmidt 8" et un Céléstron 14". Yvan Labadie et Denis Potvin ont fait de la photographie planétaire à l'aide d'un Meade 8" et d'un Bausch & Lomb 8" tandis que Jean-François Viens, à l'aide d'un Newton 10" et d'un Newton 4,5", a fait des observations visuelles systématiques appuyées par des dessins du Soleil, de Jupiter, Mercure, Vénus et des comètes célèbres de l'année. Ses observations de l'occultation de Saturne par 28 Sgr ont été publiées dans la revue LE QUEBEC ASTRONOMIQUE.

L'observatoire de St-Luc, pour lequel Denis Martel et Clermont Vallières attendent un miroir de 40 cm, mettra à profit l'expérience acquise par Yvan Bourassa dans la construction d'un système d'entraînement avec moteur pas-à-pas sur les deux axes. Avec Eric Dorion, celui-ci s'est mérité un prix de 5000 FF pour la présentation d'un télescope contrôlé par ordinateur à l'Exposcience Internationale à Brest, France, en juillet 1989.

Des cours d'astronomie ont été donnés à l'hiver et à l'automne par Jean-Marie Fréchette, Guy Campeau et Clermont Vallières en collaboration avec la ville de Beauport. Yvan Bourassa a aussi donné des cours à Charny. D'autre part, des soirées d'observation ont été offertes au public dans la Domaine Maizerets en collaboration avec la ville de Québec.

À l'occasion des Perséides et de l'éclipse de lune du 16 août, le Centre de Québec était l'invité du Parc de la Jacques-Cartier pour animer trois soirées d'observation qui commençaient par une causerie. Les gens de Québec vinrent nombreux, plusieurs même avec leur télescope. L'éclipse fut très belle. Par contre, les Perséides eurent à combattre la lune et les nuages.

Dans le domaine de l'informatique, le Centre a entrepris de moderniser les moyens de production de l'almanach graphique. Pourtant encore efficaces, ceux-ci prennent dangereusement de l'âge. Après avoir refait l'analyse et la programmation des calculs, il reste maintenant à programmer la mise en graphique au moyen d'une table traçante moderne. Ce travail met à profit les compétences d'étudiants en physique et en informatique et a même permis de découvrir des talents parmi nos membres.

Quant à l'almanach graphique 1990, il a été produit une autre fois avec la collaboration personnelle de Dr. Paul Marmet de l'Institut Herzberg d'Astrophysique. Il a déjà connu une diffusion provinciale en page centrale du numéro nov-déc 89 de la revue LE QUEBEC ASTRONOMIQUE publiée par l'A.G.A.A. Il est toujours à la disposition gratuite de ceux qui en font la demande au Centre de Québec qui sera heureux de constater que son travail est apprécié. Adressez vos demandes à C.P. 9396, Sainte-Foy, P.Q. G1V 4B5.

JEAN-MARIE FRÉCHETTE, *secrétaire*

## REGINA CENTRE

Thanks to the hard work of its members the past year has certainly been eventful at the Regina Centre. We anticipate that this will continue in 1990 with the opening of our new observatory and clubroom at the Saskatchewan Science Centre, a restored observatory in Moose Jaw, and the construction of a third observatory at Davin.

In May the Regina Centre (formerly Regina Astronomical Society) donated the oldest observatory in Saskatchewan to the Western Development Museum in Moose Jaw. This observatory is presently being restored by members of the Regina Centre to working condition and will be used by members of the Moose Jaw branch of the Regina Centre.

The Regina Centre had the opportunity of hosting Lloyd Higgs, President of the RASC on September 27, 1989. Lloyd Higgs spoke to our members about the magic of aperture synthesis and also the advantages of joining the RASC.

On October 1, 1989 the Regina Astronomical Society joined the RASC as the Regina Centre.

In December the observatory dome was moved from our Broad Street Observatory (near downtown) to the Saskatchewan Science Centre located in the city's Wascana Park. The observatory project was funded by Kalium Canada Ltd. and will be called the Kalium Observatory. A 6 inch refractor telescope for the observatory was donated by the University of Regina. The Kalium Observatory is expected to be in operation before spring 1990. At the same time the Broad Street Observatory building was moved to the hamlet of Davin located approximately 40 kilometres southeast from Regina. We plan to construct an observatory at this site in the near future.

The major observing event of the year occurred in July when several members travelled to Cypress Hills Provincial Park for a weekend of observing.

At the Broad Street Observatory the public viewing nights were held again this year and were very successful. A total of 15 public viewing nights were held starting July 1 and ending October 24 with a total of 260 people attending. The lunar eclipse on August 16 was the busiest when a total of 100 people attended.

Some of the objects observed during the year were all of the planets except for Pluto, numerous constellations, NGC 663, NGC 7331, NGC 7789, M103, M31, M32, M33, and M52.

STEPHEN SZUTA, *Secretary*

## ST. JOHN'S CENTRE

One of our Centre's members in Pasadena (Clarence Hodder) went to the G.A. in Cape Breton this year and found everything to his liking. In addition to passing on this news he sent us an enormous package on Astronomy Week that contains many ideas.

As far as the general activities of the Centre, we have had the usual sort of year – with two exceptions. First of all, we had a lot of meetings in the summer and hardly any in the winter period. This is unusual, and hopefully we can keep it up. The most notable of the meetings was a talk by Dr. Glynn George on black holes. Based on this lecture an article will be appearing in the JOURNAL. Gary King presented a slide show in a summer meeting. The Jupiter and Saturn images, and the space art slides stand out in my memory. During the year Gary Dymond also showed a vintage film of Apollo 11 during our celebration of the 20th anniversary of the moon landing. Also shown were Jupiter rotation movies from NASA.

The Observing Group has had some good sessions. The most notable (and our other exception) was the night of August 12 with the Perseids. CBC TV was there and obtained footage of us and of a meteor and a fireball. They also filmed Gary Dymond and Derek Osborne preparing for the outing. This was shown on the supper hour newscast. The Centre is still trying to reestablish ties with the Marine Institute, but for the time being we are meeting with the help of Memorial University of Newfoundland's Physics Dept. We haven't had any Executive Meetings over the last year, but hope to get back to these in the upcoming year. We also seem to be getting four or five new faces at meetings, and I hope this is a trend.

DAVID BOURGEOIS, *Secretary*

## SARNIA CENTRE

The Sarnia Centre held its meetings in the municipal buildings of the Town of Clearwater. The meetings were discussions of areas of astronomical interest of our members. There was a strong emphasis of the members on observational activity. Our centre president for 1989, Derek Hitchens, moved to Alvinston and constructed his own observatory on an excellent site.

Centre members continued the public service program. The Sarnia Centre received several inquiries

regarding astronomical matters. We try to answer questions and provide instructors for youth organizations such as brownies and cub scouts.

Members from the Sarnia Centre were very successful in the movement to make astronomy a compulsory part of the school curriculum. The Lambton County Board of Education introduced an integrated Science Unit for all the Grade 5 classes in the county. The Unit is titled "Out of this World", an integrated activity based unit exploring the depths of the universe. Consultants of school board have in-serviced teachers on astronomy and have informed teachers about the Royal Astronomical Society of Canada and that members from the Sarnia Centre are available as a resource.

The Council of the Centre met on December 1st, 1989 to plan activities for 1990. Plans for next year included the continuation of existing programs such as independent observing, small group observing, and public service. In addition we will be publishing new issues of our centre's journal "Urania" in 1990 and we will also be conducting a series of public lectures on astronomical issues.

The year 1990 will also see developments in the integration of our centre's home, the Town of Clearwater with the City of Sarnia.

Alice Lester, *Secretary*

#### **SASKATOON CENTRE — No Report Received**

#### **THUNDER BAY CENTRE**

The Thunder Bay Centre was active in its first full year of operation; we began the New Year with forty members. Even at temperature of minus 30 celsius we still had photo buff's out with their 'cold cameras'.

For 1989 the executive started 'GROUP ASTRO VIEWING SESSION'. For the summer we took turns arranging a date, place and time for viewing and the executive took turns hosting each of these sessions. The idea was wonderful in theory; the only problem was the lack of clear nights.

However, members had a wonderful experience with the Aurora Borealis in March. At the General Meeting we had thereafter, we had quite a display of great photos by many of our members. From this point in time, we started gearing up for National Astronomy Day. We coordinated a display in Thunder Bay's biggest shopping mall which consisted of photos, equipment, books, charts and knowledgeable members and sparked a large interest in astronomy. In the evening we held an open viewing in Hillcrest Park. We had the luck of clear skies and people came out to view with us. The summer brought our second annual Sleeping Giant viewing party which we hold during the Canada Day weekend. We had a group camp site and local campers joined in our viewing sessions.

Our final major viewing event of the year was centered around the lunar eclipse of August 16, 1989. This eclipse was predicted to be "one of the best seen in the North" ... and it was. Our members were out with their cameras and getting fantastic shots. Some members set up their equipment at Hillcrest park again and we had a great crowd come out to view and the local TV station came out to interview our President. The next meeting we had with our members had a 'show and tell' that produced beautiful pictures.

For our final general meeting of 1989 we were honoured to have Dr. Lloyd Higgs speak to our group on Modern Radio Astronomy. December 1989 was a relatively quiet month for our members because we had record low temperature here. We hope that the New Year brings us warmer temperatures and cloudless skies.

B. Connell, *Secretary*

#### **TORONTO CENTRE**

The 1988-1989 year was one of the most eventful ones in recent memory for the Toronto Centre of the Royal Astronomical Society of Canada.

The fifth annual Awards Banquet of the Toronto Centre was organized by Susan Bolton and held on 20 November 1988 at the Windsor Arms Hotel in Toronto. The guest speaker, Dr. J. Donald Fernie, past Director of the David Dunlap Observatory, presented a talk on the history of the D.D.O. The Centre award recipients were: Frank Dempsey (Bertram Topham Award); Mary Anne Harrington (Bert Winnearls Award); Barry Sloan (Toronto Centre Gold Medal). (Mr. Sloan's Gold Medal was actually earned in the 1987-1988 year, but was presented to him at this year's banquet.)

The 1988-1989 Toronto Centre Gold Medal was won by Douglas Johnstone and was presented to him by Centre President Dr. Ralph Chou at the Members Night of 13 July.

The Editorial Committee, led by Editor Clifford Hand and Assistant Editor Mary Anne Harrington, continued its vital role of publishing and distributing six bimonthly issues of our newsletter, *Scope*. Miss Harrington assumed the position of Editor in April, and Paul Fjeld became Assistant Editor at that time. Unfortunately, their efforts to reduce mailing costs by obtaining a second class mailing rate have been rejected by the Post Office.

Membership Secretary Steven Spinney recorded 896 regular, 42 youth and 84 life members for a total membership of 1022. This represents a decrease of 30 members from 1987-1988.

It is with regret that we record the deaths of the following Centre members: Mr. B. Komocki, Mr. John Roberts, Mr. E. D. Rogers.

The Programme Committee under Dr. John Percy organized eight Regular Meetings. The speakers and their topics were:

|                 |   |
|-----------------|---|
| October (1988)  | Prof. Richard Jarrell: "The 70th Anniversary of the Dominion Astrophysical Observatory" |
| November (1988) | Prof. Slavek Rucinski: "Solar and Stellar Activity"                                     |
| February        | Prof. Michel Fich: "H-II Regions in the Milky Way"                                      |
| March           | Prof. Henry Halls: "The Impact of Meteorites"   |
|                 | Prof. John Percy: "Astronomy in the Developing World."                                  |
| April           | Prof. James McLachlan: "Measuring the Universe: From Ptolemy to Newton"                 |
| May             | Mr. Randy Attwood: "The 20th Anniversary of Apollo 11"                                  |
| September       | Dr. Lloyd A. Higgs: "The Magic of Aperture Synthesis"                                   |

Ten Members Nights were organized by the Observational Activities Committee under Guy Nason. Topics of some of the presentations included astrophotography, photometry, observing techniques, the medieval astrolabe, aurorae, solar astronomy, art in astronomy, the 28 Sagittarii/Saturn occultation and the lunar eclipse of 16 August. The April and June meetings were preceded by demonstrations in the McLaughlin Planetarium Star Theatre conducted by Phil Mozel. John Ginder organized two City Star Parties and Paul Markov and Otmar Eigler led observing sessions at Long Sault Conservation Area. The city events were plagued by light pollution, but still attracted about 30 members. The Long Sault evenings attracted somewhat smaller numbers to a darker, but more remote location. Thanks go to all those who helped out at these activities.

We offer our thanks also to Eric Galt and Darnley Wright for providing refreshments at all Regular and Members Meetings.

The annual Toronto Centre picnic was rained out (again!) this year, but the David Dunlap Observatory Open House took place as scheduled on 16 September. The thanks of the membership goes to Susan Bolton for organizing this event and to the staff of the D.D.O. for their hospitality.

Jack Winzer reported that the Telescope Makers Group conducted two introductory sessions at which construction was begun on fifteen 150mm f/6 telescopes. Three of these were completed; the others are still in progress. Eight members in the advanced group are continuing work on 315mm Cassegrain telescopes. The mirrors are in various stages of construction, plans for tubes have been finalized and the work of designing the mounts is under way. The Group added several pieces of testing and grinding equipment to their workshop. They also set up telescope-making displays and conducted grinding demonstrations for Astronomy Day and other public education events.

Chairperson Randy Attwood and his Public Education Committee had a busy year. John Ginder organized our most active Astronomy Day ever, with events at the McLaughlin Planetarium, the Ontario

Science Centre, York University and the University of Toronto on 13 May. More than 60 members helped out during daytime demonstrations and evening star parties. John also distributed excellent flyers announcing the August lunar eclipse with the result that several hundred members of the public turned out at two park sites to view an excellent eclipse. David Aylsworth, Ted Molczan and Lisa Truant helped to organize Public Star Nights during the summer. Darnley Wright ran several successful shopping mall displays and earned the Centre's Public Education Award for his efforts. Again this year, several members assisted the staff of the David Dunlap Observatory with their Saturday night programme by setting up their own telescopes and meeting with the public. Steven Spinney organized this assistance. Randy Attwood retired his cable television astronomical newsmagazine, *Astronomy Toronto*, after nine years and 60 programmes. The finale, a live 60 minute show covering the partial phases of the lunar eclipse, was a grand one indeed. Several cable networks across southern Ontario carried the show into an estimated one million households.

Randy Attwood also chaired the Observatory Development Committee which actively pursued its mandate of designing, funding and building an observatory in Metropolitan Toronto. A business case has been written, the initial building design has been completed and plans are underway to investigate funding opportunities and site selection.

The Annual Meeting witnessed the retirement of Second Vice-President Dr. John Percy and Councillors Susan Bolton, Clifford Hand, Stephen Mastellotto and Birgitt Plumbohm. The thanks of the membership and council is extended to them for their contributions to the operation of the Centre over the last several years.

The Centre also thanks all the members of Council and other volunteers who continually and tirelessly contribute their time and talents to the Toronto Centre.

Finally, we thank the staff of McLaughlin Planetarium for allowing us to use their facilities and mailing address.

GUY NASON, *Secretary*

## VANCOUVER CENTRE

12 Council and 12 regular meetings were held during 1989, and we continued to hold our monthly raffle. International Astronomy Day on May 13 was well attended. As before, we co-operated with the Greater Vancouver Regional District in the Fraser River Festival on June 4th, and "Celebration of Nature" on Sept 23rd and 24th. Our president, Gerry Knight, has continued to give astronomy talks every other Friday morning on the CBC Early Edition. Our annual observing weekend was again held at the east gate of Manning Park at the end of July, and many members attended the Mt. Kobau star party at the end of August. Our annual dinner was held in February with Dr. David Vogt of UBC as speaker, and "Astrowap" was again held in November.

1989 meetings:

|           |   |
|-----------|---|
| January   | Dr. Barry Beyerstein (SFU)                    |
| February  | Dr. Phil Gregory (UBC)                        |
| March     | Planetarium show                              |
| April     | Dr. Keith Raney (NRC)                         |
| May       | Dr. Bruce Campbell (University of Victoria)   |
| June      | Planetarium show: "The Lamps of Atlantis."    |
| July      | and August Members' night                     |
| September | Dr. Leigh Palmer (SFU): "Voyager at Neptune." |
| October   | Dr. Jaymie Matthews (UBC)                     |
| November  | Dr. G. Fahlman (UBC)                          |
| December  | Dr. John S. MacDonald (Honorary President).   |

SALLY BAKER, *Secretary*

## VICTORIA CENTRE

If only one word could be used to describe our Centre's activities over the past year, it would be "progress".

In past years, the more or less traditional way to prepare the Secretary's annual accounting of the Centre's comings and goings has been to provide current membership figures along with a breakdown of the categories into which members fall, i.e. lifetime, youth, etc.

I'm going to depart from that formality this year. Mostly that is because I don't feel it's how *many* members a Centre has (a close guesstimate would be 135 to 150), but rather what those people have been **DOING** that counts.

Over the past two years, under the guidance of President Gene Steeves, a strong emphasis was placed on a number of different participational activities. For the first time, a strong "observers group" was formed. This group meets every third Wednesday of the month, rain or shine. Members enjoy an evening of star gazing, followed by delicious home-made cookies and other refreshments compliments of Whelda Steeves. Roger Williams, also in charge of our telescope making group, fields questions and expands on information found in the Observers Handbook.

It should also be noted that a number of members rarely, if ever, miss an opportunity to attend to help familiarize members and the general public alike with sky gazing. From the Hobby Show each spring to Saturday evenings assisting at the D.A.O., these fellows can be found manning telescopes or just generally being helpful. I'd like to have the following people (stand up to be) recognized: Gene Steeves, George Ball, Malcolm Scrimger, Sid Sidhu, Rick McCrea, Frank Ogonoski, Steve Rayner, Roger Williams.

In closing, we have another exciting year ahead of us (although it would be pretty hard to beat a year with the Neptune flyby)!

We look forward to entering a year focussing on public education. Plans for a permanent observing site for the Evans-VanderByl telescope on the Saanich Artifacts Society property are proceeding nicely. By this time next year, we look forward to an even more active membership to share the joys of astronomy.

ALICE NEWTON, *Secretary*

## WINDSOR CENTRE

1989 for the Windsor Centre was a year of continuous positive progress.

On the 26th of January, the Centre's membership meetings were moved to Essex Hall, at the University of Windsor. The beginning meeting for the year was conducted by our new Centre President, Steve Pellarin. During this meeting, the Centre had the good privilege of hosting our National President, Dr. Lloyd A. Higgs and his wife Kathleen. Lloyd took a difficult subject, of creating radio pictures with radio telescopes, and made it fascinating for those people present. Our Astronomy Day activity for the public on the 13th of May was once more a success. Al Des Rosiers and a committee of Centre members put on a display for the public at the Main Branch of the Windsor Public Library. About 100 persons viewed the set up. On the 16th of August, the Windsor Centre had probably its most successful observational activity for the public, at least recently, which was showing the public the total lunar eclipse that occurred that night. About 500 people came to the St. Clair College Observatory and viewed the eclipse through the Observatory's telescope and the Centre's and members' equipment. We also had front page coverage in the *Windsor Star*, the next day. Al Des Rosiers was the 'organization man' for this most successful event, also.

Members represented the Centre at the following amateur astronomy conventions: Stellafane, Starfest and a new one, Hidden Hollow in Ohio. As well, Henry Lee attended the G.A. at Sydney, N.S., last summer.

Denise Sabatini, President of the Kingston Centre, was our exchange speaker for the year and gave an intriguing talk on the astronomy of the Mayans. C. Joady Ulrich, returned this exchange and spoke in Kingston on the 13th of October. At our 'Annual' meeting on 17 November, Mike Watson came down from Toronto and gave his incredible slide presentations. He also gave us a report and update for preparations concerning the Society's total solar eclipse expedition to Baja, Mexico in 1991.

Two committees were formed to deal with certain needs that arose during the year concerning the Centre; a Constitution Committee, which met to begin to rewrite the Centre's governing document. The other was named the G.A. Committee and met to discuss the possibility of the Windsor Centre in hosting a General Assembly for the Society in the near future.

A number of observing sessions were held at the Big Bend and, with the Essex-Wayne Observers, at the E. M. Warwick (Eagle) conservation areas. Also others occurred at the homes of Randy Groundwater and Pat Langan.

Education efforts for the public were continued with talks given by Randy Groundwater, in Windsor and at Point Pelee National Park. Steve Pellarin, Tom Sharron and Al Des Rosiers also gave presentations in the Windsor area.

Tom and Al are also refurbishing 3 of the Centre's telescopes; the 3-inch (80 mm) and 4-inch (10 cm) refractors and the 8-inch (20 cm) reflector.

Dan Taylor has become a bold pioneer for the members of the Centre by going into the frontier of large aperture telescopes. He is building, what Randy Groundwater has termed, his "Magnum Opus" – a 20-inch (50 cm) f/5 Dobsonian reflector. As well as Dan, Centre members very much look forward to viewing through this grand scope in 1990. Dan and a few others in the Centre have worked with the members to start an informal Observers' Group during the year.

Special thanks go to Dr. Lloyd A. Higgs, Patricia Hanlin, Denise Sabatini and of course, Mike Watson for their quality presentations. Also to Dr. Mordechay Schlesinger, who is our new Honorary President in 1990, for his help in getting a room to meet in, at the University. Thanks are given to Steve Pellarin, Al Des Rosiers, Tom Sharron (including his work with Centre records), Randy Groundwater, Dan Taylor and other members who have expended much effort in maintaining the strength and vigour of the Centre. Appreciation is also expressed to Frank Shepley, who stepped in during the year to manage the printing of the *Aurora*.

The Windsor Centre had 9 membership meetings, 3 Council meetings, also one social in December. The meeting agenda for the year was as follows:

|           |  |
|-----------|--|
| January   | Dr. Lloyd A. Higgs: "The Magic of Aperture Synthesis"  |
| February  | Steve Pellarin: "Second Annual RASC – Windsor Centre Astro-Quiz"   |
| March     | Slide Presentation Night – astronomy and related slides shown by: Steve Pellarin, Al Des Rosiers, Dan Taylor and Henry Lee |
| April     | Jeff Peacock: "Light Pollution Filters"  |
| May       | Patricia Hanlin: "Variable Stars in the Galaxy"  |
| June      | Randy Groundwater: "Apollo 11 – 20 Years Later"  |
| September | Denise Sabatini: "Mayan Astronomy"   |
| October   | C. Joady Ulrich: "Astronomy on Canvas"   |
| November  | Mike Watson: "South of Capricorn" and "Moonshadow over Mindanao"   |

C. JOADY ULRICH, *Secretary*

**WINNIPEG CENTRE** — No Report Received.

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## GOLD MEDAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

The Gold Medal of the Society was established in 1905 as an encouragement to the study of astronomy. It is awarded to the graduating fourth year University of Toronto Arts & Science student who has both an A standing in his fourth year and the highest average mark in the two full courses and two half courses in astronomy which are contained in the Astronomy specialist programme, provided this average is over 80%. If no student satisfies these criteria, the award is not made.

|                            |                        |                          |
|----------------------------|------------------------|--------------------------|
| 1906 – *W.E. Harper        | 1937 – D.A. MacRae     | 1968 – P.G. Martin       |
| 1907 – *R.M. Motherwell    | 1940 – W.F.M. Buscombe | 1970 – J. Kormendy       |
| 1909 – *R.K. Young         | 1948 – R.W. Tanner     | 1971 – Blake F. Kinahan  |
| 1910 – *R.J. McDiarmid     | 1949 – I. Halliday     | 1972 – M.J. McCutcheon   |
| 1911 – R.S. Sheppard       | 1956 – D.C. Morton     | 1976 – Chris Rogers      |
| 1913 – *E.A. Hodgson       | 1960 – C.R. Purton     | 1977 – M. De Robertis    |
| 1914 – G.S. Campbell       | 1961 – R.C. Henry      | 1978 – D.R. Gies         |
| 1926 – *F.S. Hogg          | 1962 – J.R. Percy      | 1979 – N. Duric          |
| 1929 – P.M. Millman        | 1963 – P.H. Reynolds   | 1981 – T.C. Box          |
| 1931 – W.S. Armstrong      | 1965 – A.F.J. Moffat   | 1982 – M.J. Gaspar       |
| 1933 – K.O. Wright         | 1966 – W.A. Sherwood   | 1984 – Glenn D. Starkman |
| 1935 – Miss F.S. Patterson | 1967 – R.H. Chambers   | 1985 – G.A. Drukier      |
| *Deceased                  |                        | 1987 – Man Hoi Lee       |

\*The Gold Medal has been replaced by the Gold Medal of the Toronto Centre.

## CHANT MEDAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

The Chant Medal of the Society was established in 1940 in appreciation of the great work of the late professor C.A. Chant in furthering the interests of astronomy in Canada. This medal is awarded, not oftener than once a year, to an amateur astronomer resident in Canada on the basis of the value of the work carried out in astronomy and closely allied fields of original investigation.

Awards have been made to the following:

|  |   |
|--|---|
| 1940 – Bertram J. Topham (Toronto)                       | 1953 – Jean Naubert (Centre d'Astronomie de Montréal) |
| 1941 – H. Boyd Brydon (Victoria)                         | 1955 – *Frank J. DeKinder (Montréal)                  |
| 1942 – *W.G. Colgrove (London)                           | 1956 – Maurice Drolet (Quebec)                        |
| 1943 – *Cyril G. Wates (Edmonton)                        | 1959 – Earl Milton (Edmonton)                         |
| 1945 – Paul-H. Nadeau (Quebec)                           | 1967 – R.R. Thompson (Toronto)                        |
| 1948 – Isabel K. Williamson (Montreal)                   | 1979 – Rolf G. Meier (Ottawa)                         |
| 1949 – Frank Sisman (Hamilton)                           | 1980 – David Levy (Kingston)                          |
| 1950 – *F. Keith Dalton (Toronto)                        | 1986 – Warren Morrison (Kingston)                     |
| 1951 – DeLisle Garneau (Centre d'Astronomie de Montréal) | 1987 – Damien Lemay (Quebec)                          |
|  | 1988 – Chris Spratt (Victoria)                        |
|  | 1989 – J.B. Newton (Victoria)                         |

## KEN CHILTON PRIZE

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

Awards have been made to the following:

|                               |                            |
|-------------------------------|----------------------------|
| 1978 – J. Newton (Victoria)   | 1988 – P. Teece (Victoria) |
| 1979 – W. Morrison (Kingston) | 1989 – L. Kemble (Calgary) |
| 1981 – C. McCaw (Vancouver)   |                            |
| 1983 – C. Spratt (Victoria)   |                            |

## THE PLASKETT MEDAL

Canada's two national astronomical societies, the Royal Astronomical Society of Canada and the Canadian Astronomical Society, have joined together in the sponsorship of a new award for students of astronomy at Canadian universities. The joint R.A.S.C./C.A.S. award entitled THE PLASKETT MEDAL is awarded in recognition of the pivotal role played by John Stanley Plaskett in the establishment of astrophysical research in Canada.

An award is made annually to the graduate from a Canadian university who is judged to have submitted the most outstanding Doctoral Thesis in astronomy and astrophysics in the preceding two calendar years. An award need not be made every year.

1988 – R. Gray (Toronto)

1989 – Peter Leonard (Toronto)

## SERVICE AWARD MEDAL OF THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

The Service Award was established in 1959 and, on recommendation of a special committee of the National Council, this small bronze plaque is presented to members who have performed outstanding service to a Centre or to the National Society.

- |   |  |
|---|--|
| 1959 – *E.J.A. Kennedy (Nat. Secretary)   | 1970 – Norman Green (Hamilton)                   |
| *J.H. Horning (National Treasurer)        | J.E. Kennedy (Saskatoon)                         |
| 1960 – *Charles M. Good (Montreal)        | 1971 – *K.B. Meiklejohn (Calgary)                |
| Miss F. Laforest (Montréal)               | J.N.R. Scatliff (Winnipeg)                       |
| Frederic L. Troyer (Toronto)              | 1972 – Vern Ramsay (Toronto)                     |
| 1961 – *Robert Peters (Victoria)          | B.F. Shinn (Winnipeg)                            |
| 1962 – Jean Asselin (Montréal)            | F. Schneider (Hamilton)                          |
| Robert J. Clark (Vancouver)               | 1973 – Fred P. Lossing (Ottawa)                  |
| *Jesse Ketchum (Toronto)                  | 1974 – Ian Halliday (Ottawa)                     |
| *Joseph A. Pearce (Victoria)              | Fred Williams (Victoria)                         |
| 1963 – *Edwin E. Bridgen (Montreal)       | 1975 – D.J. FitzGerald (Toronto)                 |
| Miss M. Burland (Ottawa)                  | 1976 – F. Loehde (Edmonton)                      |
| *A. Vibert Douglas (Kingston)             | *Ken Chilton (Hamilton)                          |
| 1964 – *C.S. Beals (Ottawa)               | R. Belfield (Winnipeg)                           |
| *M.W. Burke-Gaffney, S.J. (Halifax)       | Mrs. P. Belfield (Winnipeg)                      |
| W.T. Goddard (Hamilton)                   | 1977 – P. Marmet (Quebec)                        |
| 1965 – *D.C. Bawtenheimer (Windsor)       | J.R. Percy (Toronto)                             |
| *John F. Heard (Toronto)                  | *Mrs. D. Russell (St. John's)                    |
| A.M. Crooker (Vancouver)                  | 1978 – Mrs. Marie Fidler Litchinsky              |
| *Ernest S. Keeping (Edmonton)             | (Calgary & Toronto)                              |
| *W.S. Mallory (Hamilton)                  | 1979 – *R. Noel de Tilly                         |
| 1966 – P. Lemieux (Montreal)              | (Centre d'Astronomie de Montréal)                |
| *S. Litchinsky (Calgary)                  | *A.W. Scott (Toronto)                            |
| W.J. McCallion (Hamilton)                 | 1980 – S.A. Mott (Ottawa)                        |
| W.A. Warren (Montreal)                    | 1981 – *L.E. Coallier (Centre d'Astro. Montréal) |
| 1967 – H.S. Hogg (Toronto)                | A. Covington (Ottawa)                            |
| P.M. Millman (Ottawa)                     | H. Creighton (Toronto)                           |
| *R.J. Northcott (Toronto)                 | Miss I.K. Williamson (Montreal)                  |
| *H. Simard (Montreal)                     | 1982 – D.P. Hube (Edmonton)                      |
| J.F. Wright (Vancouver)                   | G.N. Patterson (Saskatoon)                       |
| 1968 – *D.R.P. Coats (Calgary & Winnipeg) | 1983 – C. Aikman (Victoria)                      |
| George Ball (Victoria)                    | L.A. Higgs (Ottawa)                              |
| *Herbert Fox (Hamilton)                   |  |

- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1984 – *L.V. Powis (Hamilton)   | 1987 – R.P. Broughton (Toronto) |
| J.A. Winger (Hamilton)          | C.G. Clark (Toronto)            |
| P. Jedicke (London)             | 1988 – A.H. Batten (Victoria)   |
| H.N.A. Maclean (Niagara)        | R.L. Bishop (Halifax)           |
| *C. Hallam (Windsor)            | J. Locke (Ottawa)               |
| H. Lee (Windsor)                | E. Orr (Hamilton)               |
| 1985 – J. Cam Fahrner (Calgary) | 1989 – R. Auclair (Unattached)  |
| 1986 – Randall Brooks (Halifax) |                                 |
| Leo Enright (Kingston)          | *Deceased                       |

### **SIMON NEWCOMB AWARD**

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

- 1979 – William J. Calnen (Halifax)
- 1981 – Christopher Rutkowski (Winnipeg)
- 1982 – Phil Mozel (Toronto)
- 1985 – Donald F. Trombino (U.S.A.)
- 1986 – David Chapman (Halifax)
- 1987 – Peter Jedicke (London)

### **DECEASED MEMBERS IN 1989**

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- Mrs. A. Hanson (Windsor)
- Dr. K. Hujer (U.S.A.)
- B. Kamocki (Toronto)
- Fr. R. Leclair (Sudbury)
- J. Roberts (Toronto)
- J. Stairs (Ottawa)





## TREASURERS' REPORTS 1989

|  | Calgary         | Edmonton       | Halifax        | Hamilton       | Kingston       | Kitchener-Waterloo | Montreal       | CF Montreal    | Niagara        | Ottawa         |
|--|-----------------|----------------|----------------|----------------|----------------|--------------------|----------------|----------------|----------------|----------------|
| <b>REVENUE</b>                         |                 |                |                |                |                |                    |                |                |                |                |
| Membership Fees                        | 6762.72         | 3880.00        | 4365.00        | 200.00         | 969.46         | 685.00             | 552.00         | 890.00         | 1480.00        | 5355.00        |
| Life Members Grants                    | 180.00          | 110.00         | 280.00         | 30.00          | 80.00          | —                  | —              | 30.00          | 30.00          | 340.00         |
| Donations                              | —               | 61.00          | 151.74         | 1615.62        | 18.00          | —                  | 147.00         | —              | 125.00         | 825.00         |
| Educational Activities                 | 324.55          | 35.00          | —              | 90.96          | —              | —                  | 101.50         | —              | 250.00         | 23.00          |
| Interest & Dividends                   | 704.21          | 464.00         | 470.39         | 200.78         | 7.16           | 37.81              | 155.77         | —              | 127.20         | —              |
| Sales of Handbooks Net                 | —               | —              | 1026.78        | —              | 7.00           | 10.00              | 193.00         | 6.00           | 20.00          | 24.50          |
| Advertising                            | —               | 100.00         | 30.00          | —              | —              | —                  | —              | 195.00         | 100.00         | 260.00         |
| General Assembly (incl. Travel Grants) | 444.50          | 67.00          | 129.50         | —              | —              | —                  | 927.50         | 50.00          | 1770.30        | 2847.75        |
| Miscellaneous                          | 3222.51         | 94.00          | 288.21         | 799.03         | —              | 147.00             | —              | 85.00          | —              | —              |
| Other Grants                           | —               | —              | 1000.00        | —              | —              | —                  | —              | —              | —              | —              |
| <b>Total Revenue</b>                   | <b>11638.49</b> | <b>4811.00</b> | <b>7741.62</b> | <b>2936.39</b> | <b>1081.62</b> | <b>879.81</b>      | <b>2076.77</b> | <b>1256.00</b> | <b>3902.50</b> | <b>9675.25</b> |
| <b>EXPENDITURES</b>                    |                 |                |                |                |                |                    |                |                |                |                |
| Fees remitted to N.O.                  | 2997.00         | 1932.00        | 2879.00        | 120.00         | 465.00         | 432.50             | —              | 534.00         | 1085.50        | 3213.00        |
| Library                                | 433.49          | —              | 112.92         | 95.92          | —              | —                  | —              | —              | —              | —              |
| Meetings & Newsletters                 | 2172.96         | —              | 1780.30        | 910.81         | 140.51         | 142.75             | 435.84         | —              | 761.63         | 1997.69        |
| Annual Dinner Net                      | 1132.50         | —              | 102.00         | —              | —              | —                  | 852.90         | —              | (23.38)        | 1664.07        |
| General Assembly (incl. Travel Grants) | 892.50          | —              | 259.00         | —              | —              | —                  | 143.00         | 350.00         | —              | —              |
| Equipment & Supplies                   | 1040.00         | 502.80         | 2880.13        | —              | 131.45         | —                  | 300.00         | 20.00          | —              | —              |
| Office Administration                  | 507.87          | 90.00          | 117.75         | —              | 26.20          | 30.00              | 121.12         | 487.29         | 765.79         | 126.67         |
| General Expenses & Audit               | 112.69          | 55.00          | —              | 512.30         | —              | —                  | 1111.16        | 229.00         | —              | 202.38         |
| Educational Activities                 | 829.23          | —              | 127.85         | 69.98          | —              | —                  | 104.00         | —              | —              | —              |
| Insurance                              | —               | —              | —              | 354.00         | 150.00         | —                  | 668.00         | 119.00         | —              | 726.00         |
| Awards & Donations                     | 331.26          | 280.00         | 82.50          | 98.32          | 34.95          | —                  | —              | —              | —              | —              |
| Operating Expenses -- Observatory      | 622.00          | —              | —              | 330.23         | —              | 48.00              | —              | —              | 1715.00        | 516.16         |
| Miscellaneous                          | 1477.77         | 970.00         | 38.65          | 211.86         | 6.72           | —                  | 105.17         | —              | 1177.75        | —              |
| <b>Total Expenditures</b>              | <b>11509.27</b> | <b>4367.00</b> | <b>6002.77</b> | <b>583.55</b>  | <b>954.83</b>  | <b>653.25</b>      | <b>1919.03</b> | <b>1252.00</b> | <b>5482.29</b> | <b>8445.97</b> |
| Surplus or (Deficit) on Operation      | 129.22          | (784.00)       | 1738.85        | (2647.16)      | 126.79         | 226.56             | (171.49)       | 4.00           | (1579.79)      | 1229.28        |
| <b>Balance from 1988</b>               | <b>10979.49</b> | <b>6681.00</b> | <b>1886.07</b> | <b>4489.44</b> | <b>457.48</b>  | <b>876.66</b>      | <b>—</b>       | <b>(4.00)</b>  | <b>2593.27</b> | <b>—</b>       |
| <b>Balance to 1989</b>                 | <b>11108.71</b> | <b>5897.00</b> | <b>—</b>       | <b>1842.28</b> | <b>584.27</b>  | <b>—</b>           | <b>—</b>       | <b>—</b>       | <b>1013.48</b> | <b>—</b>       |
| Other Assets                           | 60492.05        | 6306.00        | —              | —              | —              | —                  | —              | —              | 38.99.65       | —              |

## TREASURERS' REPORTS 1989

|  | Quebec         | St. John's    | Sarnia        | Saskatoon       | Thunder Bay   | Toronto         | Vancouver      | Victoria       | Windsor        | Winnipeg       |
|--|----------------|---------------|---------------|-----------------|---------------|-----------------|----------------|----------------|----------------|----------------|
| <b>REVENUE</b>                         |                |               |               |                 |               |                 |                |                |                |                |
| Membership Fees                        | 3054.40        | 265.00        | 135.00        | 885.00          | 900.00        | 23415.00        | 4220.00        | 3611.20        | 1070.00        | 2685.00        |
| Life Members Grants                    | 20.00          | 20.00         | 10.00         | 40.00           | —             | 830.00          | 190.00         | —              | 30.00          | —              |
| Donations                              | 33.00          | —             | —             | 210.36          | —             | 705.00          | —              | 61.69          | 479.00         | 790.00         |
| Educational Activities                 | 400.00         | —             | —             | —               | —             | —               | —              | —              | —              | —              |
| Interest & Dividends                   | 410.14         | 6.36          | 48.22         | 289.72          | —             | 3215.00         | 448.00         | 649.24         | 43.12          | 166.00         |
| Sales of Handbooks Net                 | —              | 100.00        | —             | 10.00           | —             | (16.00)         | —              | 150.00         | 240.00         | 146.00         |
| Advertising                            | 2086.35        | —             | —             | —               | —             | 1375.00         | 128.00         | —              | —              | —              |
| General Assembly (incl. Travel Grants) | 177.50         | —             | —             | —               | —             | 1268.00         | 386.00         | 1609.28        | —              | —              |
| Miscellaneous                          | —              | 10.00         | —             | 371.00          | 45.00         | 1788.00         | 739.00         | 958.00         | 136.20         | 1790.00        |
| Other Grants                           | 350.00         | —             | —             | —               | —             | —               | —              | —              | —              | —              |
| <b>Total Revenue</b>                   | <b>6531.39</b> | <b>401.36</b> | <b>193.22</b> | <b>1806.08</b>  | <b>945.00</b> | <b>32580.00</b> | <b>6111.00</b> | <b>7039.41</b> | <b>1998.32</b> | <b>5577.00</b> |
| <b>EXPENDITURES</b>                    |                |               |               |                 |               |                 |                |                |                |                |
| Fees remitted to N. O.                 | 1128.00        | 189.00        | 120.00        | 546.00          | 420.00        | 13803.00        | 2178.00        | 1680.00        | 633.00         | 885.00         |
| Library                                | 708.60         | 21.83         | —             | —               | —             | 38.00           | —              | 131.00         | —              | —              |
| Meetings & Newsletters                 | 463.60         | —             | —             | 200.07          | —             | 7299.00         | 2635.00        | 1297.23        | 407.05         | 290.00         |
| Annual Dinner Net                      | —              | —             | —             | —               | —             | 519.00          | (22.00)        | 1114.36        | —              | —              |
| General Assembly (incl. Travel Grants) | 277.50         | —             | —             | —               | —             | 2268.00         | 386.00         | —              | —              | 290.00         |
| Equipment & Supplies                   | 2109.74        | —             | —             | —               | —             | —               | 521.00         | —              | 59.25          | —              |
| Office Administration                  | 316.76         | —             | —             | 41.02           | —             | 5096.00         | 48.00          | —              | —              | 210.00         |
| General Expenses & Audit               | 442.93         | —             | —             | —               | —             | 440.00          | —              | 730.74         | 175.50         | —              |
| Educational Activities                 | 410.00         | —             | —             | —               | —             | 715.00          | —              | —              | 114.54         | 300.00         |
| Insurance                              | 299.75         | —             | —             | 420.00          | 175.00        | 400.00          | —              | —              | 300.00         | —              |
| Awards & Donations                     | —              | —             | —             | —               | —             | 1313.00         | —              | —              | 695.74         | —              |
| Operating Expenses - Observatory       | 400.00         | —             | —             | 82.28           | —             | 39.00           | —              | —              | —              | 3408.00        |
| Miscellaneous                          | 1508.98        | 94.70         | 14.68         | 25.45           | 192.03        | 940.00          | 95.00          | 210.33         | 49.00          | 98.00          |
| <b>Total Expenditures</b>              | <b>8065.86</b> | <b>305.54</b> | <b>134.68</b> | <b>1314.82</b>  | <b>787.03</b> | <b>32870.00</b> | <b>5841.00</b> | <b>5163.66</b> | <b>2434.08</b> | <b>5481.00</b> |
| Surplus or (Deficit) on Operation      | (1534.47)      | 95.83         | 58.54         | 491.26          | 157.97        | (290.00)        | 270.00         | 1875.75        | (435.76)       | 96.00          |
| <b>Balance from 1988</b>               | <b>6516.23</b> | —             | <b>599.79</b> | <b>13838.35</b> | —             | <b>40096.00</b> | <b>8467.00</b> | —              | <b>990.04</b>  | —              |
| <b>Balance to 1989</b>                 | <b>4981.76</b> | —             | <b>658.33</b> | <b>13731.21</b> | —             | <b>39806.00</b> | <b>8737.00</b> | <b>2206.97</b> | <b>554.28</b>  | —              |
| Other Assets                           | —              | —             | —             | —               | —             | —               | 13064.00       | —              | —              | —              |



THE ROYAL ASTRONOMICAL SOCIETY OF CANADA

LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA

FINANCIAL STATEMENTS

DECEMBER 31, 1989

*C. J. Finkham & Associates*

*C. J. Tinkham & Associates*

Chartered Accountants

C. J. TINKHAM, C.A., C.M.C.  
D. C. TINKHAM, B.COMM., C.A., C.M.C.  
P. J. BROCKLESBY, B.B.A., C.A.

2842 BLOOR STREET WEST  
TORONTO - ONTARIO  
M8X 1B1

AUDITORS' REPORT

To the Members  
of

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

We have examined the balance sheet of The Royal Astronomical Society of Canada as at December 31, 1989, and the statements of revenue and expenditure and equity, for the year then ended. Our examination was made in accordance with generally accepted standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these financial statements present fairly the financial position of the Society as at December 31, 1989, and the results of its operations for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

*C. J. Tinkham & Associates*

TORONTO, Ontario  
January 30, 1990

CHARTERED ACCOUNTANTS

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
BALANCE SHEET  
AS AT DECEMBER 31, 1989

A S S E T S

|   | <u>1989</u>       | <u>1988</u>       |
|---|-------------------|-------------------|
| <u>CURRENT</u>  |                   |                   |
| Cash and short term investments                                   | \$ 109,018        | \$ 126,778        |
| Accounts receivable   | 21,331            | 20,506            |
| Prepaid expenses  | 269               | 269               |
| Accrued interest receivable                                       | <u>11,143</u>     | <u>10,570</u>     |
|   | <u>141,761</u>    | <u>158,123</u>    |
| <u>INVESTMENTS</u>  |                   |                   |
| Marketable securities - at cost                                   | <u>3,019</u>      | <u>3,019</u>      |
| <u>SPECIAL PURPOSE FUNDS (Schedule C)</u>                         |                   |                   |
| Cash and short term deposits<br>(including accrued interest)      | 60,606            | 49,550            |
| Marketable securities - at cost                                   | 4,000             | 4,000             |
| Guaranteed investment certificate                                 | <u>101,600</u>    | <u>101,600</u>    |
|   | <u>166,206</u>    | <u>155,150</u>    |
| <u>FIXED</u>  |                   |                   |
| Office building, furniture,<br>equipment, library (nominal value) | <u>1</u>          | <u>1</u>          |
|   | <u>\$ 310,987</u> | <u>\$ 316,293</u> |

Significant accounting principles - Note 1

Approved on behalf of the Council  
of the Society

*L. A. Higgs*  
.....President  
*Karl Milled*  
.....Treasurer

*C. J. Furkham & Associates*

LIABILITIES

|  | <u>1989</u>           | <u>1988</u>           |
|--|-----------------------|-----------------------|
| <u>CURRENT</u>                                     |                       |                       |
| Accounts payable and accrued charges               | \$ 56,702             | \$ 50,009             |
| Deferred revenue                                   |                       |                       |
| - Membership fees for ensuing year                 | 19,887                | 23,359                |
| - Journal and handbook subscriptions               | 15,217                | 18,921                |
| - Unappropriated life membership fees (Schedule A) | <u>37,977</u>         | <u>36,938</u>         |
|  | <u>129,783</u>        | <u>129,227</u>        |
| <br><u>SPECIAL PURPOSE FUNDS</u> (Schedule C)      | <br><u>166,206</u>    | <br><u>155,150</u>    |
| <br><u>EQUITY</u>                                  | <br><u>14,998</u>     | <br><u>31,916</u>     |
|  | <br><u>\$ 310,987</u> | <br><u>\$ 316,293</u> |



THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
STATEMENT OF EQUITY  
FOR THE YEAR ENDED DECEMBER 31, 1989

|  | <u>1989</u>                  | <u>1988</u>             |
|--|------------------------------|-------------------------|
| <u>BALANCE</u> , January 1                         | \$ 31,916                    | \$ 55,671               |
| <u>Add</u> : Excess of revenue over<br>expenditure | <u>(16,918)</u>              | <u>1,245</u>            |
| <u>Less</u> : Transfer to Special<br>Purpose Funds | 14,998<br><u>          -</u> | 56,916<br><u>25,000</u> |
| <u>BALANCE</u> , December 31                       | <u>\$ 14,998</u>             | <u>\$ 31,916</u>        |

*C. J. Turkan & Associates*

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
STATEMENT OF REVENUE AND EXPENDITURE  
FOR THE YEAR ENDED DECEMBER 31, 1989

|  | <u>1989</u>        | <u>1988</u>     |
|--|--------------------|-----------------|
| <u>REVENUE</u>                             |                    |                 |
| Membership fees                            |                    |                 |
| - R.A.S.C. Centres                         | \$ 36,116          | \$ 35,819       |
| - Individual members                       | 19,002             | 18,407          |
| - Life membership: annual appropriation    | <u>1,999</u>       | <u>1,944</u>    |
|  | <u>57,117</u>      | <u>56,170</u>   |
| Grants and Donations                       |                    |                 |
| - Government of Canada-annual grant        | 2,000              | 2,000           |
| - Miscellaneous donations                  | <u>72</u>          | <u>579</u>      |
|  | <u>2,072</u>       | <u>2,579</u>    |
| Publications                               |                    |                 |
| - R.A.S.C. Journal: subscriptions          | 21,360             | 23,132          |
| reprints                                   | 770                | 1,077           |
| publishing revenue                         | 11,457             | 9,426           |
| - Observer's Handbook                      | <u>74,676</u>      | <u>85,828</u>   |
|  | <u>108,263</u>     | <u>119,463</u>  |
| Miscellaneous income                       |                    |                 |
| - interest on investments                  | 18,044             | 14,908          |
| - insignia sales                           | 292                | 503             |
| - rent                                     | <u>11,133</u>      | <u>11,253</u>   |
|  | <u>29,469</u>      | <u>26,664</u>   |
|  | <u>196,921</u>     | <u>204,876</u>  |
| <u>EXPENDITURE</u>                         |                    |                 |
| Publications (Schedule B)                  | 133,895            | 117,534         |
| Office salaries and employee benefits      | 38,686             | 43,745          |
| Postage and shipping expense               | 6,084              | 5,145           |
| General and office expense                 | 7,147              | 4,670           |
| Stationery, printing and supplies          | 1,919              | 1,507           |
| Life membership allotment to Centres       | 2,710              | 2,810           |
| General assembly and travel expense        | 10,545             | 10,950          |
| Legal and accounting                       | 1,800              | 3,800           |
| Insignia, medals and awards                | 896                | 1,894           |
| Telephone                                  | 709                | 837             |
| Insurance                                  | 1,039              | 950             |
| Library expense                            | 595                | 1,119           |
| Office equipment purchases                 | 164                | 2,830           |
| Bad debts                                  | 341                | 61              |
| Building expenses                          | <u>7,309</u>       | <u>5,779</u>    |
|  | <u>213,839</u>     | <u>203,631</u>  |
| <u>EXCESS OF REVENUE OVER EXPENDITURES</u> |                    |                 |
| <u>(EXPENDITURES OVER REVENUE)</u>         | <u>(\$ 16,918)</u> | <u>\$ 1,245</u> |

*C. J. Furkham & Associates*

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 1989

NOTE 1 ACCOUNTING POLICIES

The financial statements of the Society have been prepared in accordance with accounting policies generally followed by similar non-commercial organizations. The significant accounting policies observed in the preparation of these statements are summarized below.

(a) Membership fees:

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

(b) Publications:

Subscriptions to the R.A.S.C. Journal are credited to income for the subscription period.

(c) Investments:

(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 of \$1. Any new acquisitions are included in expenditures for the year.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
SCHEDULE A  
UNAPPROPRIATED LIFE MEMBERSHIP FEES  
FOR THE YEAR ENDED DECEMBER 31, 1989

|   | <u>1989</u> | <u>1988</u> |
|---|-------------|-------------|
| BALANCE, January 1  | \$ 36,938   | \$ 33,587   |
| <u>Add</u> : Life membership fees received<br>in the year | 3,038       | 5,295       |
|   | 39,976      | 38,882      |
| <u>Deduct</u> : Appropriation to general<br>account       |             |             |
| BALANCE, December 31                                      |             |             |

SCHEDULE B  
PUBLICATION COSTS

R.A.S.C. Journal

|                                 |           |           |
|---------------------------------|-----------|-----------|
| Printing of journal             | \$ 60,504 | \$ 49,584 |
| Printing of National Newsletter | 10,247    | 12,008    |
| Editorial assistance            | 1,815     | 1,000     |
| Distribution costs              | 16,283    | 13,471    |
| Reprints                        | 5,031     | 2,268     |
|                                 | 93,880    | 78,331    |

Observer's Handbook

|                    |            |            |
|--------------------|------------|------------|
| Printing           | 36,833     | 31,040     |
| Distribution costs | 1,731      | 5,792      |
| Advertising        | 1,451      | 2,371      |
|                    | 40,015     | 39,203     |
|                    | \$ 133,895 | \$ 117,534 |

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA  
LA SOCIÉTÉ ROYALE D'ASTRONOMIE DU CANADA  
SCHEDULE C  
COMPOSITION OF SPECIAL PURPOSE FUNDS  
AS AT DECEMBER 31, 1989

|                  | <u>RUTH<br/>NORTHCOTT<br/>FUND</u> | <u>ENDOWMENT<br/>FUND</u> | <u>CEN-<br/>TENNIAL<br/>FUND</u> | <u>SOLAR<br/>ECLIPSE<br/>FUND</u> | <u>TOTAL</u>      |
|------------------|------------------------------------|---------------------------|----------------------------------|-----------------------------------|-------------------|
| Cash             | \$ 5,467                           | \$ 1,475                  | \$2,311                          | \$7,849                           | \$ 17,102         |
| Term deposits    | 24,000                             | 14,000                    | 5,000                            | -                                 | 43,000            |
| Securities       | 4,000                              | -                         | -                                | -                                 | 4,000             |
| G.I.C.           | -                                  | 101,600                   | -                                | -                                 | 101,600           |
| Accrued interest | 504                                | -                         | -                                | -                                 | 504               |
|                  | <u>\$33,971</u>                    | <u>\$117,075</u>          | <u>\$7,311</u>                   | <u>\$7,849</u>                    | <u>\$ 166,206</u> |

*C. J. Fiskham & Associates*

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**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA**


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**NATIONAL OFFICERS AND COUNCIL FOR 1990 /  
 CONSEIL ET ADMINISTRATEURS NATIONAUX**


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*Honorary President*—Ian Halliday, Ph.D., Ottawa  
*President*—Lloyd A. Higgs, B.Sc., D.Phil., Penticton  
*1st Vice-President*—Damien Lemay, B.Sc., Québec  
*2nd Vice-President*—Peter Broughton, M.Sc., A.R.C.T., Toronto  
*Secretary*—David A. Tindall, Ph.D., 136 Dupont Street, Toronto M5R 1V2  
*Treasurer*—Karl Miller, A.Sc.T., 136 Dupont Street, Toronto M5R 1V2  
*Recorder*—Henry Lee, B.Sc., Windsor  
*Librarian*—Brian Beattie, B.A., 136 Dupont Street, Toronto M5R 1V2  
*Editor of Journal*—Jeremy B. Tatum, Ph.D., Victoria  
*Editor of Observer's Handbook*—Roy L. Bishop, Ph.D., Halifax  
*Editor of Newsletter*—Ian McGregor, B.Sc., B.Ed., Toronto  
*Executive Secretary*—Miss Rosemary Freeman, 136 Dupont Street, Toronto M5R 1V2  
*Council*—Past Presidents—Roy L. Bishop, Ph.D., Halifax  
 Mrs. Mary Grey, B.Sc., (C.E.), Ottawa

*Representatives from Centres*—

|                           |                         |                         |
|---------------------------|-------------------------|-------------------------|
| Calgary: Glen Hawley      | Niagara: G. Saxon       | Toronto: B. Chou        |
| Edmonton: F. Loehde       | Ottawa: D. George       | M. Daly                 |
| Halifax: R. Brooks        | S. Ferguson             | M.A. Harrington         |
| Hamilton: S. Umar-Khitab  | Quebec: J-M. Frechette  | A. Sosnkowski           |
| Kingston: L. Enright      | Regina: R. Chomos       | S. Spinney              |
| Kit.—Waterloo: B. Mueller | St. John's: R. Dodge    | Vancouver: G. Knight    |
| London: M. Flegel         | Sarnia: J. Townsend     | Victoria: J. Howell     |
| Montreal: R. Pow          | Saskatoon: D. Rybotycki | Windsor: C.J. Ulrich    |
| Centre d'Astronomie       | Thunder Bay: J. Zeleny  | Winnipeg: L. Mlodzinski |
| Mtl: J-P. Urbain          | Toronto: R. Attwood     |                         |

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**CENTRE SECRETARIES / SECRÉTAIRES DES CENTRES 1990**


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|                                    |   |
|------------------------------------|---|
| CALGARY                            | Glen Hawley, c/o Alberta Science Centre, Calgary Planetarium, P.O. Box 2100,<br>701-11th Street, S.W., Calgary, AB, T2P 2M5 |
| EDMONTON                           | John Savard, 1 – 10737-116th St., Edmonton, AB, T5H 3M3   |
| HALIFAX                            | David Lane, 26 Randall Ave., #4 Halifax, NS, B3M 1E2  |
| HAMILTON                           | Karyn Bennett, 1482 Barnett Dr., Burlington, ON, L7P 2R2  |
| KINGSTON                           | Eldon Adams, RR3, Harrowsmith, ON, K0H 1V0  |
| KITCHENER—WATERLOO                 | Jeff Brunton, 10 Dumfries St., #7 Paris, ON, N3L 2C6  |
| LONDON                             | Grant Carscallen, 67-50 Fiddler's Green Road, London, ON, N6H 4T4   |
| MONTREAL                           | Maritza Berger, 1002-7431 Kingsley Road, Montreal, PQ, H4W 1P1  |
| CENTRE D'ASTRONOMIE<br>DE MONTREAL | Marc A. Gélinas, 11 rue Pierre-Riccard, N-D-I-Perrôt, PQ, J7V 5V6   |
| NIAGARA                            | W. Jutting, 138 South Drive, St. Catharines, Ontario, L2R 4W2   |
| OTTAWA                             | Derek MacLeod, P.O. Box 6617, Stn. J, Ottawa, ON, K2A 3Y7   |
| QUEBEC                             | Jean-Marie Frechette, 1054, rue D'Aubigny, Charlesbourg, PQ, G1H 1N1  |
| REGINA                             | S. Szuta, 106-2140 9th Ave. N., Regina, SK S4R 7Z8  |
| ST. JOHN'S                         | David M. Bourgeois, 36 Second Street, Mount Pearl, Nfld, A1N 1Y5  |
| SARNIA                             | Alice Lester, 1091 Emily Street, Mooretown, ON, NOM 1M0   |
| SASKATOON                          | Bill Hydromako, 135 Manning Cres., Saskatoon W., SK, S7L 6J3  |
| THUNDER BAY                        | B. Connell, 545 Parkway Drive, Thunder Bay, ON, P7A 5C9   |
| TORONTO                            | Guy Nason, 5 Abbotsford Road, North York, ON, M2N 2P6   |
| VANCOUVER                          | Sally Baker, 308-7680 Columbia Street, Vancouver, BC, V5X 4S8   |
| VICTORIA                           | Alice Newton, RR 1, 801 Stanehill Pl., Victoria, BC, V8X 3W9  |
| WINDSOR                            | C. Joady Ulrich, 4-243 Watson Ave., Windsor, ON, N8S 3R8  |
| WINNIPEG                           | Myra Rutkowski, P.O. Box 215, St James P.O., Winnipeg, MB, R3J 3E4  |

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