

THE EVOLUTION OF CAP/ACP ACTIVITIES

by Francine M. Ford

I was asked by Dr. Vogt, guest editor for this issue, to write an article on the evolution of CAP activities. The intent was to have an article which complemented the brief history of the CAP written by CAP member and former CAP President Dr. D.D. Betts (in this issue), but written from the perspective of the Executive Director rather than that of a member. Having researched some background information for

Dr. Bett's article, I found myself becoming increasingly enthused about the role the CAP has played over the years, and how it has often met the difficult challenge of modifying or expanding its activities to respond to the current environment. I have attempted to present the flavour of the CAP's evolution by tracking some of the more obvious indicators of change over the years, with a focus on the time frame with which I am personally familiar -- September 1991 to the present.

I have also included some tables and supplementary information which complement the history prepared by Dr. Betts. There are likely many exciting developments that have not been included; their omission is simply a reflection of my short tenure rather than an indication of their lack of significance in the evolution of the Association. For the sake of brevity, I use CAP rather than CAP/ACP.

CAP BECOMES CAP/ACP

The first indication of change and evolution of any association is found in its name. For the CAP, the first of such changes occurred in 1947, when the Association officially changed its name from the Canadian Association of Professional Physicists to the Canadian Association of Physicists, thereby recognizing the broader representation of all physicists in Canada, whether from industry, government labs, or academia.

In June 1969, a special general meeting of the members of the CAP was held at the University of Waterloo for the purpose of considering a resolution passed by the CAP Council in February "for the change of the name of the Association from 'Canadian Association of Physicists' to 'Canadian Association of Physicists/ Association canadienne des physiciens'".

The Supplementary Letters Patent authorizing the name change were dated July 30, 1969. As a further step in evolution, members were asked to authorize a further name change during the 1994 AGM at the University of Regina -- from 'Canadian Association of Physicists / Association canadienne des physiciens' to 'Canadian Association of Physicists / Association canadienne des physiciens et physiciennes', clearly to recognize the contribution our women physicists were making in the Canadian physics community. At that

time, there was some debate whether we should adopt a simpler name such as the Canadian Physical Society; however, most Council members felt that the CAP acronym and logo were well established and the CAP would not benefit from changing either. Supplementary Letters Patent reflecting this name change were issued on September 26, 1994.

These changes seem to have an interesting relationship to the membership of the Executive during those periods. For instance, the first name change was adopted in 1947, at a time when the CAP had its first non-industrial physicist on the Executive

The CAP/ACP owes a great debt of gratitude to the volunteers who have contributed, in no small measure, to the success, stature, and viability of the Association. It is only through the efforts of these dedicated individuals that the CAP has survived and flourished during its 55-year existence and, we hope, will continue well into the next century.

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(G.A. Woonton from the University of Western Ontario, who would have been Vice-President Elect in 1946). During the period of the second name change, in 1969, M.P. Bachynski (then at RCA Limited in Quebec) was President and Jean-Louis Meunier was Executive Secretary. The amendment put in place to officially recognize the role of women in physics coincided with the term of office of the CAP's first woman President, A.C. McMillan of the Atmospheric Environment Service. The influence of the Executive and Council members on the direction that the Association takes is clear. Fortunately, the CAP has been blessed with a very impressive roster of presidents (see Table 1) who have had no small measure of influence in making the CAP what it is today.

CAP DIVISIONS

The evolution of names and activities extends also to the various Divisions of the CAP. Divisions were first

introduced in 1955, with the establishment of the Medical Physics Division, followed in 1956 by the Theoretical Physics Division. As various sub-disciplines developed a substantial enough representation within the Association, CAP's Council would approve the establishment of a further subject Division. Each Division developed their own constitution and objectives and obtained funding through individual members of the CAP opting to join and pay dues to the various divisions. During the course of their existence, some Divisions, such as DASP, DOP, and DCMMP, have undergone name changes to reflect changes in the activities of their members. In the case of the Division of Medical and Biological Physics (DMBP), this Division became inactive for a period of approximately ten years immediately following the decision of many of its members to break away and form the Canadian Organization of Medical Physicists (COMP). DMBP was officially reactivated in October 1999, at the request of the members of the Division.

CAP PRESIDENTS / PRÉSIDENTS DE L'ACP

45-46	F.E. COOMBS Research Enterprises Limited	64-65	P. LORRAIN Université de Montréal	83-84	B.P. STOICHEFF University of Toronto
46-47	J.O. WILHELM Ontario Research Commission	65-66	R.E. BELL McGill University	84-85	G.C. HANNA Atomic Energy of Canada Limited
47-48	W.P. DOBSON Ontario Hydro	66-67	J.M. ROBSON University of Ottawa	85-86	A.I. CARSWELL York University
48-49	G.A. WOONTON University of Western Ontario	67-68	H.E. PETCH University of Waterloo	86-87	J.S.C. McKEE University of Manitoba
49-50	D.C. ROSE National Research Council	68-69	M.P. BACHYNSKI RCA Limited	87-88	P.A. EGELSTAFF University of Guelph
50-51	J.S. MARSHALL McGill University	69-70	D.D. BETTS University of Alberta	88-89	L.G. CARON Université de Sherbrooke
51-52	A.D. MISENER University of Western Ontario	70-71	E.W. VOGT University of British Columbia	89-90	A.A. OFFENBERGER University of Alberta
52-53	G.C. LAURENCE National Research Council	71-72	G.G. CLOUTIER Institut de recherche de l'Hydro Qué.	90-91	R.L. ARMSTRONG University of Toronto
53-54	G.M. SHRUM University of British Columbia	72-73	A.T. STEWART Queen's University	91-92	R.M. LEES University of New Brunswick
54-55	L. KERWIN Université Laval	73-74	H.L. WELSH University of Toronto	92-93	J.C.D. MILTON Atomic Energy of Canada Limited
55-56	B.W. SARGENT Queen's University	74-75	A.H. MORRISH University of Manitoba	93-94	A.C. McMILLAN Atmospheric Environment Service
56-57	G. HERZBERG National Research Council	75-76	A.E. DOUGLAS National Research Council	94-95	R.A. LESSARD Université Laval
57-58	R.H. HAY Aluminum Company of Canada	76-77	R.J.A. LEVESQUE Université de Montréal	95-96	P.S. VINCETT FairCopy Services
58-59	B.W. CURRIE University of Saskatchewan	77-78	H.E. JOHNS Ontario Cancer Institute	96-97	B.E. ROBERTSON University of Regina
59-60	L.G. ELLIOTT Atomic Energy of Canada Limited	78-79	R.R. HAERING University of British Columbia	97-98	E.C. SVENSSON National Research Council(CRNL)
60-61	H.E. DUCKWORTH McMaster University	79-80	P.A. FORSYTH University of Western Ontario	98-99	M.O. STEINITZ St. Francis Xavier University
61-62	E.R. POUNDER McGill University	80-81	C.C. COSTAIN National Research Council	99-00	M. D'IORIO National Research Council
62-63	G.M. VOLKOFF University of British Columbia	81-82	P. MARMET Université Laval	00-01	G.W.F. DRAKE University of Windsor
63-64	L. KATZ University of Saskatchewan	82-83	A.R. CRAWFORD Anatek Electronics Limited		

TABLE 1 CAP Presidents since the Association was founded in 1945.

The CAP nevertheless maintains a close relationship with COMP, including a joint membership arrangement and the exchange of speakers at each other's annual congress.

In addition to the specific activities undertaken by the Divisions at the direction of the their Executive and membership, the Chairs of each of these Divisions are members of the CAP Council as well as of the Program Committee that develops the technical program for each CAP Congress. The participating Division Chairs establish a full program of invited and contributed talks each year. Several years ago, DCMMP solidified its support of the CAP Congress by deciding to move its annual Symposium from the Fall to the Sunday immediately preceding the CAP Congress, at the same location. This arrangement has been very successful, both in drawing more DCMMP members to the Congress, and in drawing some non-DCMMP members to the Symposium.

CAP CONGRESS

The CAP held its first Annual Congress in 1946 and it has remained an annual event ever since (see Table 2). The CAP Congresses are a great venue for physicists to meet and to remain abreast of the current research interests in the various subdisciplines of physics. They also offer the CAP an opportunity to honour and

recognize important developments and events within the Canadian physics community. Over the past few years, in particular, the CAP has been fortunate to have been able to include recent Nobel Prize recipients amongst its plenary speakers. In 1991 (just before my arrival), the CAP Conference, which bore the slogan 'Physics is Fun' featured a "Taylorfest" in honour of Dr. Richard Taylor's recent Nobel Prize. In 1995, the CAP hosted a joint 'Canadian-American-Mexican' (CAP/APS/SMF) congress in honour of its 50th anniversary.

MEDALS AND AWARDS

The CAP medals detailed in Dr. Betts' article provide an opportunity for the CAP to recognize Canada's outstanding achievers within different subdisciplines as well as overall career achievement. The winners of the medals are invited to give a plenary talk at the CAP Congress during the year of their award. The medals are then presented to the recipients during the Congress banquet. An impressive list of Canadian physicists has been honoured over the years as recipients of these medals (see Table 3).

The expansion of the medals from the lifetime achievement award (introduced in 1956) to the current slate of eight medals is another measure of the

ANNUAL CONGRESS / CONGRÈS ANNUEL

1946 University of Toronto	1966 Université de Sherbrooke	1985 University of New Brunswick
1947 University of Western Ontario	1967 University of Toronto (CAP/APS/SMF)	1986 University of Alberta
1948 National Research Council	1968 University of Calgary	1987 University of Toronto
1949 Université Laval	1969 University of Waterloo	1988 Université de Montréal (CAP/APS)
1950 McMaster University	1970 University of Manitoba (CAP/APS/SMF)	1989 University of Guelph
1951 McGill U. and U. de Montréal	1971 Carleton University	1990 Memorial University of Newfoundland
1952 Université Laval	1972 University of Alberta	1991 University of Manitoba
1953 University of Western Ontario	1973 Université de Montréal	1992 University of Windsor
1954 University of Manitoba	1974 Memorial University of Newfoundland	1993 Simon Fraser University
1955 University of Toronto (CAP/APS)	1975 York University	1994 University of Regina
1956 Université de Montréal	1976 Université Laval (CAP/APS/SMF)	1995 Université Laval
1957 University of Ottawa	1977 University of Saskatchewan	1996 University of Ottawa
1958 McMaster University	1978 University of Western Ontario	1997 University of Calgary
1959 University of Saskatchewan	1979 University of British Columbia	1998 University of Waterloo
1960 Queen's University	1980 McMaster University	1999 University of New Brunswick
1961 Sir George Williams University	1981 Dalhousie University	2000 York University
1962 McMaster University	1982 Queen's U. and Royal Military College, Kingston	2001 University of Victoria
1963 Université Laval	1983 University of Victoria (CAP/CASCA)	2002 Laval University
1964 Dalhousie University	1984 Université de Sherbrooke	
1965 University of British Columbia		

TABLE 2 The locations of the CAP Annual Congress since 1946.

evolution of the CAP. In particular, since 1995, the CAP has established joint medals with three outside organizations: the Centre de recherches mathématique (prize in theoretical and mathematical physics), the Canadian Organization of Medical Physicists (the Peter Kirkby Memorial Medal), and the Institut national d'optique (medal for achievement in applied photonics). We have also entered into

reciprocal agreements with numerous physical societies around the world: the American Physical Society, the Institute of Physics, and the physical societies in Brazil, Mexico, Israel, and Germany. The CAP is becoming recognized by industry as well as internationally as the national body representing Canadian physicists.

MEDALLISTS / LAURÉATS

CAP MEDAL FOR ACHIEVEMENT IN PHYSICS /

MÉDAILLE DE L'ACP POUR CONTRIBUTION EXCEPTIONNELLE À LA PHYSIQUE

1956	J.A. GRAY Queen's University	1967	B.N. BROCKHOUSE McMaster University	1978	J.M. ROBSON McGill University	1990	R.L. ARMSTRONG University of Toronto
1957	G. HERZBERG National Research Council	1968	R.E. BELL McGill University	1979	J.P. CARBOTTE McMaster University	1991	G. KARL University of Guelph
1958	J.S. FOSTER McGill University	1969	L. KERWIN Université Laval	1980	B. MARGOLIS McGill University	1992	A.T. STEWART Queen's University
1959	B.W. SARGENT Queen's University	1970	A.E. DOUGLAS National Research Council	1981	W. ISRAEL University of Alberta	1993	W.N. HARDY Univ. of British Columbia
1960	D.K.C. MACDONALD National Research Council	1970	W.B. LEWIS (special award) Atomic Energy of Canada Ltd	1982	R.R. HAERING Univ. of British Columbia	1994	G.W.F. DRAKE University of Windsor
1961	H.I. WELSH University of Toronto	1971	A.E. LITHERLAND University of Toronto	1983	P.A. EGELSTAFF University of Guelph	1995	W.G. UNRUH Univ. of British Columbia
1962	B.W. CURRIE Univ. of Saskatchewan	1972	E.P. HINCKS Carleton U. and N.R.C.	1984	M.P. BACHYNSKI M.P.B. Technologies Inc.	1996	P. CORKUM National Research Council
1963	G.A. WOONTON McGill University	1973	M. BLOOM Univ. of British Columbia	1985	C.C. COSTAIN National Research Council	1997	D.W.L. SPRUNG McMaster University
1964	D.A. KEYS Atomic Energy of Canada Ltd	1974	B.P. STOICHEFF University of Toronto	1986	A. ARROTT Simon Fraser University	1998	E.R. KANASEWICH University of Alberta
1964	H.E. DUCKWORTH McMaster University	1975	J.A. JACOBS University of Alberta	1987	G.T. EWAN Queen's University	1999	J.W. MCCONKEY University of Windsor
1965	H.E. JOHNS University of Toronto	1976	J. VAN KRANENDONK University of Toronto	1988	E.W. VOGT TRIUMF		
1966	G.C. LAURENCE Atomic Energy Control Board	1977	A.H. MORRISH University of Manitoba	1989	P.A. REDHEAD National Research Council		

HERZBERG MEDAL /

MÉDAILLE HERZBERG

1970	R.R. HAERING Simon Fraser University	1978	W.N. HARDY Univ. of British Columbia	1986	A.M. TREMBLAY Université de Sherbrooke	1994	J.F. YOUNG Univ. of British Columbia
1971	P. MARMET Université Laval	1979	G.W.F. DRAKE University of Windsor	1987	A.H. MacDONALD National Research Council	1995	S. JOHN University of Toronto
1972	D.W.L. SPRUNG McMaster University	1980	G.I. STEGEMAN University of Toronto	1988	F. WESEMAEL Université de Montréal	1996	J. DAHN Simon Fraser University
1973	R.L. ARMSTRONG University of Toronto	1981	B. NICKEL University of Guelph	1989	T. TIEDJE Univ. of British Columbia	1997	D. BONN Univ. of British Columbia
1974	J.P. CARBOTTE McMaster University	1982	A.R.W. McKELLAR National Research Council	1990	I. AFFLECK Univ. of British Columbia	1998	L. TAILLEFER McGill University
1975	A.J. ALCOCK National Research Council	1983	W.G. UNRUH Univ. of British Columbia	1991	D. MacFARLANE McGill University	1999	R.C. MYERS McGill University
1976	J.C. HARDY Atomic Energy of Canada Ltd	1984	N. ISGUR University of Toronto	1992	R. KIEFL Univ. of British Columbia		
1977	M.B. WALKER University of Toronto	1985	S. RUDAZ University of Minnesota	1993	N. KAISER University of Toronto		

CAP MEDAL FOR OUTSTANDING ACHIEVEMENT IN INDUSTRIAL AND APPLIED PHYSICS /

MÉDAILLE DE L'ACP POUR DES RÉALISATIONS EXCEPTIONNELLES EN PHYSIQUE INDUSTRIELLE ET APPLIQUÉE

1991	P. WEBB General Electric Canada Inc.	1995	M. BACHYNSKI MPB Technologies Inc.	1999	L. WHITEHEAD University of British Columbia
1993	J.J.A. BEAULIEU Defence Research Est. Valcartier	1997	J. DOBROWOLSKI National Research Council		

TABLE 3 (Part One) List of recipients of the first three Medals established by the CAP, starting in 1956.

MEDALLISTS / LAURÉATS (continued)**CAP/CRM PRIZE IN THEORETICAL AND MATHEMATICAL PHYSICS**
PRIX ACP-CRM DE PHYSIQUE THÉORIQUE ET MATHÉMATIQUE

1995	W. ISRAEL University of Alberta	1997	I. AFFLECK University of British Columbia	1999	D.J. ROWE University of Toronto
1996	W.G. UNRUH University of British Columbia	1998	R. BOND CITA/University of Toronto		

CAP MEDAL FOR EXCELLENCE IN TEACHING UNDERGRADUATE PHYSICS
MÉDAILLE DE L'ACP POUR L'EXCELLENCE EN ENSEIGNEMENT DE LA PHYSIQUE AU PREMIER CYCLE

1995	J. PITRE University of Toronto	1997	E.L. McFARLAND University of Guelph	1999	C. KALMAN Concordia University
1996	A.J. SLAVIN Trent University	1998	S.P. GOLDMAN University of Western Ontario		

CAP/COMP PETER KIRKBY MEDAL FOR OUTSTANDING SERVICE TO PHYSICS IN CANADA
MÉDAILLE COMMÉMORATIVE PETER KIRKBY DE L'ACP/OCPM POUR SERVICES EXCEPTIONNELLES À LA PHYSIQUE AU CANADA

1996	D.D. BETTS Dalhousie University	1998	J.S.C. McKEE University of Manitoba
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CAP/INO MEDAL FOR OUTSTANDING ACHIEVEMENT IN APPLIED PHOTONICS
MÉDAILLE ACP/INO POUR DES RÉALISATIONS EXCEPTIONNELLES EN PHOTONIQUE APPLIQUÉE

1998	K.O. HILL Communications Research Centre	2000	R. NORMANDIN National Research Council
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CAP/DCMMP BROCKHOUSE MEDAL FOR OUTSTANDING ACHIEVEMENT IN CONDENSED MATTER AND MATERIALS PHYSICS
MÉDAILLE BROCKHOUSE DE L'ACP/DCMP POUR DES RÉALISATIONS EXCEPTIONNELLES EN PHYSIQUE DE LA MATIÈRE CONDENSÉE ET MATÉRIAUX

1999	W. HARDY University of British Columbia
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TABLE 3 (Part Two) The recipients of the five CAP Medals established since 1995.

In addition to the Medals, the CAP offers a few Prizes and Awards geared to students. Two of these awards are sponsored by Corporate Members, including the annual GSI/Lumonics Award (a \$300 cash prize and Certificate for each of the top three student presentations at the competition during the CAP's annual congress), and the annual Newport Instruments Canada Award in Optical Sciences (a \$2,500 award for a research project in optical sciences). Under the auspices of the Educational Trust Fund, the CAP's charitable fund, the CAP holds a University Prize Examination (the Lloyd G. Elliott prize exam; see the vignette on Dr. Elliott in this issue), a High School Prize Examination, and a Lecture Tour series geared to undergraduate students. The ETF also sponsors the Canadian Undergraduate Physics Conference, the Physics Olympiad, and the Canada-Wide Science Fair. The revenue for this Fund comes from the voluntary contributions of CAP members and the fees of Corporate Members. At this time, the CAP has twenty-two Corporate members (see Fig. 4).

Atlantic Nuclear Services Ltd.
Atmospheric Environment Service
Atomic Energy of Canada Ltd.
Faircopy Services Inc.
Genum Corporation
Glassman High Voltage Inc.
GSI/Lumonics
Harvard Apparatus Canada
Institut national d'optique
JDS Uniphase Inc.
Kurt J. Lesker Canada Inc.
Leybold Canada Inc.
MPB Technologies Inc.
Mathis Instruments Ltd.
Newport Instruments Canada Corp.
Nortel Technology
OCI Vacuum Microengineering Inc.
Ontario Hydro Tech.; Research Div.
Optech Incorporated
Spectra Research Corporation
TRIUMF
Varian Canada Limited

TABLE 4 CAP's Corporate Members as at December 31, 1999.

PHYSICS IN CANADA

Another great indicator of change has been the evolution of the CAP's Bulletin from a quarterly newsletter-style publication to the glossy, two-colour Journal style of today. Although '*Physics in Canada*' may have been produced in the early years of the Association, I believe that this publication was limited to the annual congress program. It appears that the first journal-style issue of *Physics in Canada* was produced in 1950 under the editorship of P.R. Wallace, with J.J. Brown and E.R. Pounder as members of the Editorial Board. This 44 page publication included ten pages of advertising and extra copies of the issue were sold for fifty cents each. It was at this time that *Physics in Canada* began to be subscribed to by many libraries, as well as by the individual members (some years later, it was decided that *Physics in Canada* would be provided to members as part of their annual dues, although subscriptions from non-members and institutions were still solicited). The Bulletin continued as a separate, annual publication until 1951. In 1952, the two publications were amalgamated and began appearing, on a quarterly basis, as "*Physics in Canada: The Bulletin of the Canadian Association of Physicists*", in a 8 1/4" x 6 3/4" format, with K.L.S. Gunn of McGill University as Editor. Since then, *Physics in Canada* (PiC) has undergone a number of changes in editors (see Table 5) as well as styles. In 1968, the publication was expanded from four issues (Spring, Summer, Autumn, Winter) to six (January, March, Congress, July, September, November). PiC moved into a 8 1/2" x 11" format in 1969 but perhaps the most noticeable change came in July 1998 when it was published, for the first time, in a two-colour format.

Although the Editorial Board had, from time to time throughout PiC's history, published special issues, it was in 1992, under the editorship of J.S.C. McKee, that the 'theme issue' was adopted as a regular feature, after the March 1992 issue on Sudbury Neutrino Observatory was so well received. The decision, in 1994, to expand the theme issues to two per year (March and September) was clearly well-founded, as

P.R. Wallace	1950-51	D.E. Brodie	1969-72
K.L.S. Gunn	1952-59	R.L. Clarke	1973-76
P.A. Forsyth	1960	E.R. Fortin	1977-80
D.M. Hunton	1961-62	J. Rolfe	1980-88
A.V. Jones	1963-65	G. Dolling	1988-89
E.W. Vogt	1966-68	J.S.C. McKee	1990-

TABLE 5 Editors of *Physics in Canada*

evidenced by the current commitments from guest editors that extend to September 2003. Like the CAP, *Physics in Canada* continues to evolve in response to the changing environment which it strives to represent.

ART OF PHYSICS

In addition to his influence on the evolution of *Physics in Canada* since 1991, J.S.C. McKee was the driving force for the launch, in July 1992, of the CAP's Art of Physics competition. This competition, which was initially sponsored by Kodak Canada and is now under the sponsorship of Shenanigan's Inc., has provided a number of very striking covers for *Physics in Canada*. An Art of Physics exhibition featuring the winning entries and honourable mentions from each competition is available for loan to any group wishing to display it.

SCIENCE POLICY / LOBBYING

Another area in which the CAP has evolved, and is now very much involved, is that of lobbying for continued funding for physics. In his article, Dr. Betts mentions how A.E. Douglas, at the 1976 Congress, urged our Association to spend more of its effort in a political role and that, gradually, this activity took place. While this is true, the most significant advances in this realm have occurred since 1995, as a result of the commitment of P.S. Vincett, then President of the CAP, to the importance of making and then presenting our case to those with political influence. This conviction set the stage for major changes within the structure and activities of the CAP office and Council. In 1996, the role of the Executive Director, F.M. Ford, was broadened to specifically include responsibilities in this area, under the title of Science Policy Officer. The most important activity of the Science Policy Officer is her involvement as a member of the Steering Committee of the Canadian Consortium for Research (CCR) and as a participant in the lobbying meetings coordinated throughout the year. The CCR, comprising over 20 scientific organizations, develops a submission each year for the House of Commons Standing Committees on Finance and Industry, which details what the community feels are the priority areas of concern in research at that time. These presentations are followed by a targeted lobbying effort in November and December of each year; meetings are arranged with politicians and senior bureaucrats who have any responsibility for research. In addition, the CAP, in partnership with the Canadian Society for Chemistry and the Canadian Federation of Biological Societies, conducts an annual tri-society lobbying effort on behalf of science in Canada, which complements the one

coordinated by the CCR. This is an ongoing activity which is now firmly entrenched in the roles and responsibilities of the Executive Director and the members of the Executive, who participate as lobbyists in the meetings each year.

In 1997, the CAP hired a part-time Science Policy Consultant, Dr. Don McDiarmid who had recently retired from the National Research Council, to allow the CAP to extend its science policy activities by participating in additional groups, such as the Partnership Group for Science and Engineering and to assist in the CAP lobbying activities. PAGSE has developed as a body which offers advice to politicians and senior bureaucrats as a representative voice of the Canadian science and engineering research community. In addition to direct input, it organizes meetings at which these people can hear from distinguished researchers. At the parliamentary breakfast meetings (Bacon and Eggheads), the target audience hears about outstanding research work and how it might contribute to the Canadian economy and culture. The annual dinner meeting, held across the street from parliament, begins following question period and ends at 9pm. Dinner is included. Here the emphasis is on how the Canadian S & T system can be made to function better in the national interest. PAGSE has had a significant impact among people of influence.

PROFESSIONALISM

Another equally important activity, which was advanced considerably during P.S. Vincett's term as president, is that related to professionalism. This issue had been consistently kept on the agenda of Council meetings by one of the CAP's most dedicated members, Peter Kirkby. Peter was a tireless champion for the physics profession and had engaged, as early as 1984, in 'battles' with the engineering profession to ensure that the engineers, when introducing amendments to their provincial legislation, did not inadvertently broaden their definition of practice to the extent that it would include the practice of the natural scientists, and physicists in particular. Many years later, through his efforts, and those of Ann McMillan and Paul Vincett who were both members of the CAP Executive during this important period, a group called the 'Natural Science Societies of Canada' was established. Its sole purpose was to interact with the Canadian Council of Professional Engineers, the national body which includes each of the provincial associations as its members, to contribute to the development of an exemption clause for natural scientists which each provincial engineering association would be

encouraged to adopt. After numerous meetings and negotiations, agreement was reached on suitable wording for an exclusion clause to be included with a new definition of the practice of engineering. Unfortunately, as the CCPE is not in the position to enforce the adoption of the exclusion clause, the CAP, through its Director of Professional Affairs and some provincial volunteers, must remain vigilant to promote the adoption of the negotiated NSSC/CCPE exemption clause in provincial legislation. In recognition of the importance of his efforts in this area, after over a decade of service on Council, P. Kirkby was appointed the first Director of Professional Affairs in 1994. Sadly, Peter was killed in an accident in early 1995. Monitoring the activities of the engineers across the country is not an easy task and the CAP has been very fortunate to have had, first P. Kirkby and now D. McDiarmid, in the role of Director of Professional Affairs.

P.Phys. / phys.

As an extension of this professionalism issue, the CAP looked many times at the merits of pursuing either a right of title or a right of practice. Since the right of practice requires a provincial Act, and the provinces are known not to be interested in introducing new legislation of this kind (even if the CAP had enough members on a provincial basis to undertake such an overwhelming and expensive task), this option was quickly abandoned. The right of title, if provincially obtained, would also involve a lengthy political process that the CAP did and does not have the resources to mount. This option was not pursued. During the 1994 CAP Congress in Regina, a representative of the Institute of Physics suggested an alternative that appeared to the CAP Executive to be achievable; that the CAP could seek a federal trademark on the titles P.Phys and phys. and appropriately license its members to use them, just as the engineering associations do with P.Eng. Thus was the P.Phys./phys. trademark initiative born (see *Physics in Canada*, vol. 53, 3, 1997). Even this 'simplified' certification process proved to be extremely time-consuming and complicated to initiate. Nonetheless, the efforts of the Trademark Committee, comprised of Paul Vincett, Don McDiarmid, Bob Barber, Mick Lord, and Francine Ford, resulted in the launch of the professional certification application process at the 1999 CAP Congress in Fredericton, New Brunswick, with the awarding of the first P.Phys. license to Dr. Bertram Brockhouse, one of Canada's Nobel Laureates. The presentation to Dr. Brockhouse included the awarding of both a Certificate and a T-shirt which bore the new professional designation logo designed by Martin Gagnon, a CAP member in industry in Quebec (see

Physics in Canada, Vol. 55, 4, 1999). Since June 1999, the CAP Office has received and processed a number of applications for the designation. As with any new initiative, there were some complications with the process which have now been resolved. The result: the CAP has awarded a number of licenses to truly deserving applicants and will be formally announcing its first group of P.Phys./phys. licensees in the 2000 Congress issue of Physics in Canada.

MEMBERSHIP

Over the years, the CAP's income has grown from just under \$1,600 in 1952 to over \$200,000 in 1999. The CAP has never received any government funding and relies

article by D. Betts in this issue). From its humble beginnings, membership has been expanded from full and student members to include a wide-range of additional categories, such as affiliates, high school teachers, foreign members, and joint members with the Chemical Institute of Canada and the Canadian Organization of Medical Physicists. In 1990, after a number of years of operating deficits, the CAP introduced a category of 'sustaining member' in an effort to help the Association fund its activities within a balanced budget. Many members opted to make this voluntary contribution in addition to their regular membership fee. Today, there are more than forty sustaining members (see Table 7).

Acadia University	Royal Military College	University of Ottawa
Bishop's University	Saint Mary's University	Univ. du Québec à Montréal
Brandon University	Simon Fraser University	Univ. du Québec à Trois-Rivières
Brock University	St. Francis Xavier Univ.	Univ. of Prince Edward Island
Carleton University	Trent University	University of Regina
Cégep de Chicoutimi	University of Alberta	University of Saskatchewan (and Eng. Phys.)
Collège Montmorency	Univ. of British Columbia	University of Toronto
Concordia University	University of Calgary	University of Victoria
Dalhousie University	University of Guelph	University of Waterloo
École Polytechnique	University of Lethbridge	Univ. of Western Ontario
Lakehead University	University of Manitoba	University of Windsor
Laurentian University	Université de Moncton	University of Winnipeg
McGill University	Université de Montréal	Wilfrid Laurier University
McMaster University	Université de Sherbrooke	York University
Memorial Univ. of Nfld.	Université Laval	
Mount Allison Univ.	Univ. of New Brunswick	
Queen's University	Univ. of Northern B.C.	

TABLE 6 The CAP's Institutional Members as at December 31, 1999

primarily on the fees from individual and institutional (physics departments) memberships, as well as a surplus from the CAP Congress, for the bulk of its operating funds. For many years the CAP has had the benefit of the support of Physics Departments across Canada through the institutional membership program. In 1995 this program was expanded to include CEGEPs/Colleges. Last year, the CAP had 44 institutional members (see Table 6). Since its inception, CAP membership has fluctuated, with the high period from 1975-1980 (see

One final indicator of change must be the status of the CAP Office, which started out as a filing cabinet within the physics department at McMaster University. When the CAP established a national office in 1968, located at 151 Slater Street in Ottawa, it leased space from the Association of Universities and Colleges of Canada. For the next approximately thirty years, the CAP office remained on Slater Street (albeit in two different suites over the years). At some point in this period, the CAP entered into a long-term lease with the realty company under the auspices of the Canadian Scientific and Engineering Learned Societies, which included other scientific bodies such as the Agricultural

Institute of Canada, the Chemical Institute of Canada, Canadian Student Pugwash, and the Canadian Home Economics Association. When the lease at 151 Slater expired in May 1996, the CAP Office took up residence within the Physics Department at the University of Ottawa, providing both a substantial savings in rent and an opportunity to establish closer links with the academic physicists. Coincidentally, this move to the University of Ottawa occurred just one month before the Physics Department there hosted the 1996 CAP Congress. Their support during that very busy time was appreciated.

A. John Alcock	Ron M. Lees
J. Brian Atkinson	Roger Lessard
C. Bruce Bigham	J.S.C. (Jasper) McKee
Bertram N. Brockhouse	Jean-Louis Meunier
Allan I. Carswell	J.C. Douglas Milton
Robert L. Clarke	Allan A. Offenberger
R. Fraser Code	Roger Phillips
Walter G. Davies	Satti Paddi Reddy
Christian Demers	Robert G.H. Robertson
Marie D'orio	John M. Robson
Gerald Dolling	Michael O. Steinitz
Gordon W.F. Drake	Alec T. Stewart
David J.I. Fry	G.M. Stinson
William M. Gray	Boris P. Stoicheff
Elmer H. Hara	Eric C. Svensson
Akira Hirose	Louis Taillefer
Betty Howard	John G.V. Taylor
Roger Howard	Michael Thewalt
Allan E. Jacobs	Jacques Trudel
Martin W. Johns	Henry M. Van Driel
J. Larkin Kerwin	Paul S. Vincett
James D. King	Erich Vogt
Peter R. Kry	

TABLE 7 CAP's sustaining members as at February 17, 2000

Since the establishment of its national office, the CAP has had only three Executive Secretaries: Jean-Louis Meunier (1968-70), Mona Jento (1971-91), and Francine Brûlé (now Ford) from September 1991 to the current time. In 1993, the title of the Executive Secretary was changed to Executive Director to reflect the increased responsibility of that position.

As a reflection of the ever-expanding activities of the CAP, and perhaps of the limited resources the Association has with which to manage them all, the current Executive Director also holds the titles of Science Policy Officer and Managing Editor of *Physics in Canada*. Over the years, F.M. Ford has been assisted by Judy McCool, Ginette Allard, Annick Blanc, Carmen Harvey, Tony Bove, and a number of other short-term staff members. At this time, the CAP office staff includes the Executive Director (Francine Ford), a full-time Administrative Assistant (Carmen Harvey) and a part-time Special Projects Assistant (Pauline Loyer). In 1998, with the help of graduate students at the University of Ottawa, the CAP made its presence known on the Web under the URL <http://www.cap.ca>. In 1999, a new look was introduced for the CAP's website and, for the first time, the CAP offered electronic renewals and membership applications. It is clear that the availability of modern technology such as electronic mail and the website have had a significant impact on the operations of the Association, including the modifications to the By-laws introduced last year that now allow the electronic distribution of regular mailings such as the slate of nominations for Council.

Many long-term members will note that the CAP Council has changed over the years, from its initial composition of Executive and Executive Secretary, to a Council that now includes the Executive, the Executive Director, the Chairs of the various Divisions, representatives of ten different regions, Directors for the different categories of members and various specific interests of the CAP, the Editors of *Physics in Canada* and the *Canadian Journal of Physics*, some councillors-at-large, and the Chair of the Science Policy Committee. After creating the position of Director of Professional Affairs, as discussed earlier in this article, it was decided that this individual should be a member of the Executive Committee of the CAP. Over the course of the next few years, as an additional reflection of the evolution of CAP activities, the Executive Committee was further expanded to include the Director of Academic Affairs (who chairs the CAP/NSERC Liaison Committee), and the Director of International Affairs (who monitors international activities and attend the APS Council meetings when the CAP President is unable to do so).

At this time, the Council is an impressive 51 members strong. Apart from the Executive Director, each of these Council members is an unpaid volunteer, who donates varying amounts of time and energy to ensuring that the CAP adequately represents the interests of the physics community in a broad spectrum of activities. Since 1945, over 780 physicists have volunteered their time in different capacities within Council, with another twelve scheduled to be added to the list when the new Council takes over in June, for 2000-2001. While this number is, in itself, impressive, it does not take into account the considerable number of additional physicists who have volunteered their time as the coordinators of the various exams, the members of the selection committees for the medals and awards, the members of the Local Organizing Committees for the Annual Congresses, the members of the various Committees of the CAP and those acting as CAP representatives on other Committees, as well as the members who offer their services to review and suggest changes to brochures and documents, or undertake some minor translations from time to time.

From the position of administrator, rather than that of a member, I have the unique opportunity to witness firsthand the dedication of many of the volunteers. I am very much aware of the number of hours that members of the Executive, in particular, donate to the CAP, as well as the seriousness with which they undertake their role. In my short history with the CAP, numerous changes and additions to the CAP's programs have been introduced. There are still a number of worthwhile projects on the back burners waiting to be implemented. Most of these changes are in response to suggestions put forward by the CAP's members, through Council and at the Annual General meeting.

The CAP owes a great debt of gratitude to each of these individuals who has contributed, in no small measure, to the success, stature, and viability of the Association. It is only through the efforts of dedicated volunteers that the CAP has survived and flourished during its 55-year existence.

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