

A BRIEF HISTORY OF THE CANADIAN ASSOCIATION OF PHYSICISTS / L'ASSOCIATION CANADIENNE DES PHYSICIENS ET DES PHYSIENNES

by Donald D. Betts

At the end of World War II a small group of industrial physicists decided to form the Canadian Association of Professional Physicists (CAPP). By July 1945 a group of 68 physicists in industry, government

laboratories and universities agreed to join the embryonic organization under the President, F.E. Coombs of Research Enterprises Ltd. A few months later a temporary constitution was made, the *Bulletin* (now *Physics in Canada / La Physique au Canada*) with an editor was being published as a quarterly, and, early in 1946, an Executive Committee of the Association was

established. Prof. J.O. Wilhelm, Univ. of Toronto, was President from 1946-47; the next year's President, Dr. W.P. Dobson, was an industrial physicist, and, in 1948-49, Prof. G.A. Woonton, University of Western Ontario, was President. The CAPP membership then consisted of 122 full and 12 student members.

An Annual Congress was started in 1946 at the University of Toronto, then 1947 at the University of Western Ontario, 1948 at the National Research Council, 1949 at the Université Laval, and so on until now with no gaps. In 1947, a revised constitution was made official with the new name, Canadian Association of Physicists (CAP). CAP was then a scientific society, not a professional association in spite of several of the founders. In 1950 the *Bulletin* became *Physics in Canada*, and it began to be subscribed to by many libraries as well as by the members. By 1955 the membership was some 500, and the childhood of CAP was outgrown!

Canadian physicists should be proud of our Association and support it with at least their membership. It appears that twice as many physicists working in Canada could join as have joined, and if most of them would join they would greatly strengthen the CAP/ACP.

In 1955, for the first time, the Annual Congress of the CAP was joined, in the University of Toronto, with the Meeting of the American Physical Society. At this Congress the nuclear physicists discussed the establishment of a high energy laboratory in Canada.

In 1956 the CAP Medal for Achievement in Physics was introduced, and Prof. J.A. Gray of Queen's University received the first medal. Like a teenager, the CAP's Congress henceforth joined the Learned Societies' annual meetings at various Canadian universities each year, although no other scientific society did so. In 1955, the Medical Physics Division was established,

and, in 1956, the Theoretical Physics Division (TPD).

In 1956 McGill Prof. P.R. Wallace, as Chair of the CAP Theoretical Physics Division, found that the Canadian Mathematical Congress (CMC) was to have a three-week seminar at the University of Alberta, Edmonton, in August 1957. One of the lecturers would be the famous theoretical physicist, Prof. E.P. Wigner. Thus it was arranged that the TPD would join the CMC seminar in Edmonton followed by a week in Banff, adding several theoretical physics lecturers including the very distinguished Profs. J. Bardeen, J.D. Jackson, P. Morrison and J. Schwinger. A second successful CMC and TPD summer seminar took place at the Université de Montréal in 1961. Shortly thereafter such summer seminars occurred at least every year. These seminars were generously supported financially, and

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otherwise, by the universities, NRC, AECL, and some companies.

Throughout the sixties, and a bit earlier, the CAP office was housed in the Physics Department of McMaster University, and the staff consisted of one part-time secretary there, although the CAP Secretary, Prof. L.E.H. Trainor, served for several years at the University of Toronto. Nevertheless, E.W. Vogt, the *Physics in Canada* editor, stated that, starting in January 1967, *Physics in Canada* would be published bimonthly. In his address at the CAP Congress in Calgary, 1968, outgoing President H.E. Petch told us the CAP Executive had taken the important step of establishing a National Office in Ottawa, and he explained why. For example, the CAP had to respond in detail to Canada's Science Secretariat's newly published report, *Physics in Canada: Survey and Outlook* (the Rose Report). The recent expansion to seven Divisions also increased the CAP office load. A bit later in 1968 the CAP Office was established at 151 Slater Street, Ottawa with a full time Executive Secretary, Jean-Louis Meunier, and two secretaries. Furthermore, the CAP Congress was no longer associated with the Learned Societies' annual meetings. Our Association had reached adulthood!

Now our Association could celebrate its 25th birthday in style at the 1970 Congress at the University of Manitoba in Winnipeg. Its membership had climbed steadily to 1655. The American Physical Society and La Sociedad Mexicana de Physica joined our Congress. Of the 25 Past Presidents, 23 were still alive and 21 came to our Winnipeg birthday! The Herzberg Medal, the second annually-awarded CAP medal, was established for the occasion to recognize excellent Canadian physicists under 39 years of age. R.R. Haering received the first Herzberg Medal at the 1970 Congress.

The 1972 Congress was held at the University of Alberta. Because Edmonton is relatively near the Orient, the CAP Executive (G.G. Cloutier, C.C. Costain, A.T. Stewart, H.L. Welsh, E.W. Vogt) decided that we should invite a few leading physicists from the Peoples Republic of China, and our Local Committee agreed. Indeed, four distinguished Chinese physicists came happily to our Congress in their blue "Mao uniforms", and they much enjoyed it scientifically and socially. Some years later one of the four, my friend and colleague Prof. Hao-Bai Lin, told me that the CAP's invitation was the first from any

Western country to Chinese scientists of any discipline to attend a conference abroad. Accordingly, the Canadian physicists involved became and remain national heroes in China, as I have discovered when I have been there.

In 1971, the hard-working J.-L. Meunier was replaced by Mona Jento as Executive Secretary. She gave outstanding service to our Association for two decades. In 1991 Mona resigned and was replaced by Francine Brûlé, now Francine Ford, who is also doing very well for the CAP/ACP, including serving as Managing Editor of our periodical, *Physics in Canada / La Physique au Canada*. It is a principal source of CAP/ACP historical data. For example, the President's Address by A.E. Douglas at the 1976 Congress urged that our Association spend more of its effort in a political role. He showed that Federal support of R & D to each of industry, government labs and universities had declined considerably since 1969. In particular, the universities' share of GNP had steadily diminished until, in 1976, it was two-thirds of what was provided to the universities in 1969. Douglas strongly recommended that the CAP join other Canadian scientific societies in lobbying the government for a bigger R&D share of the GNP. Gradually, this activity has taken place, and now the politicians are listening seriously.

The CAP Office, now at the University of Ottawa, has given me the numbers of members of our Association for approximately every five years, as follows in the table:

1945	1950	1956	1960	1965	1970	1975
154	210	720	1133	1507	1844	1878

1980	1985	1990	1995	1999
1878	1677	1523	1575	1566

We should be concerned that we have not recovered from a 20% decline in membership in the 80's, despite the great amount of work for the Association by members of the Executives and various committees over the past two decades. It appears that twice as many physicists working in Canada could join as have joined, and if most of them would join they would greatly strengthen the CAP/ACP.

Now the CAP has thirteen Divisions, including Atmospheric and Space Physics, Atomic and Molecular Physics, Canadian Geophysical Union, Condensed and Materials Physics, Industrial and Applied Physics, Medical and Biological Physics, Nuclear Physics, Optics and Photonics, Particle Physics, Physics Education, Plasma Physics, Surface Science, and Theoretical Physics. These Divisions contribute greatly to the organization and liveliness of the Annual Congresses.

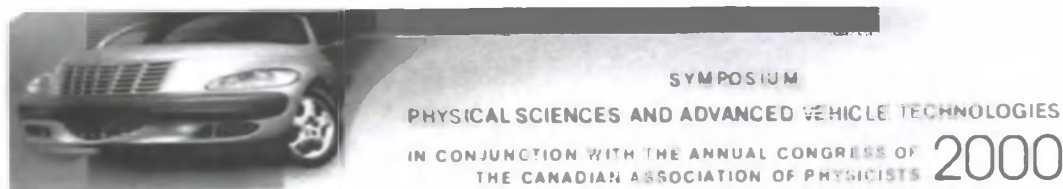
One feature of the CAP in the 1990's has been the increase in the number of its medals and prizes, although some of them are not awarded each year. Association medals and recent first recipients now are: the CAP Medal for Achievement in Physics, the Herzberg Medal, the CAP Medal for Excellence in Teaching Undergraduate Physics (J.M. Pitre - 1995), the Peter Kirkby Memorial Medal (D.D. Betts - 1996), and four medals or prizes that were established through the efforts of various Divisions, including the Brockhouse Medal (W. Hardy - 1999). We do not, however, have more medals and prizes than are deserved.

In recent years our Association's lobbying of the Federal Government has become more and more vigorous and effective. For instance, P.S. Vincett, an industrial physicist, stated in 1995, at the beginning of his term as CAP president, that the most important task for his presidency would be, with the help of many others, to establish the CAP as a truly effective

voice for science, one which would speak to governments clearly and effectively on behalf of physics and science as a whole. Such a valiant and demanding effort has been, and is being, made. Among other efforts, the CAP, in partnership with the Chemical Society of Canada and the Canadian Federation of Biological Societies, is now lobbying the Federal Government well on behalf of science in Canada. One recent result is the government's plan to finance 2000 new university Chairs for Research Excellence over the next three years. The CAP lobbying is now focussed on continued support for basic research, including the indirect costs associated therewith, sufficient financing of government laboratories, TRIUMF, and a new Canadian Neutron Facility.

I would have liked to have written a longer and better history of CAP/ACP, but I must thank my friends Francine Ford and Erich Vogt for their help, which enabled me to write this article as well as I have. Further information on the CAP can be found in the article on the "Emergence of Physics Graduate Work" by M.A. Preston and H.E. Howard-Lock, as well as the article on "The Evolution of CAP/ACP Activities", by F.M. Ford, in this issue.

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The University of Windsor School of Physical Sciences along with co-sponsors, DaimlerChrysler, Materials and Manufacturing Ontario and the Canadian Association of Physicists, Division of Industrial and Applied Physics are holding a Symposium entitled, "Physical Sciences and Advanced Vehicle Technologies".

This Symposium will be held at York University in Toronto, June 7-8, 2000.

These topics related to advanced vehicle technologies will be included in the program:

- * Power electronics, Sensor Electrical Systems;
- * Advanced Materials for Future Vehicle Conceptions;
- * Scientific Progression in the Further Development of Fuel Cells;
- * Advanced Coating Technologies;
- * Physico-Chemical Conceptions of Car Energy Resources;
- * Electrochemical Energy Storages..

For Canadian Association of Physicists (CAP) members, registration is \$80.00 Cdn. Registration for all other participants is \$160.00 Cdn. Your fee covers a welcome reception, breakfast, lunch and Symposium publication. To register or learn more about invited speakers and topics please visit our website at www.uwindsor.ca/psa01.

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