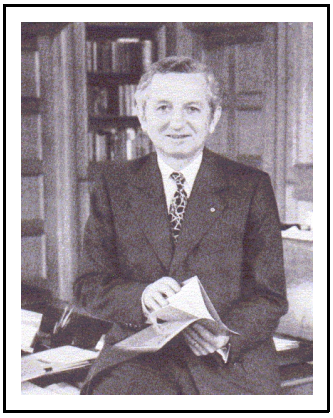
# ROBERT EDWARD BELL, 1918 - 1991



Robert E. Bell

Bob Bell, as he was known to his many friends and colleagues, was a world renowned nuclear physicist. He belonged to the first generation of post-war physicists who had helped place Canadian nuclear research at the center stage of international nuclear physics. He was known for his pioneering experimental work on nuclear interactions, his invention and exploitation of the method for direct measurements of very short nuclear transition life-time, and his discovery of delayed proton radioactivity. At the peak of his scientific career, he was appointed the Principal and Vice-Chancellor of McGill University when leadership was needed to guide the university through the difficult turbulent times of the Vietnam war era. He was a scholar with a sharp mind and a quick but gentle wit.

Born of Canadian parents on November 29, 1918 in New Malden, England, he grew up in Ladner B.C., and attended UBC on scholarships. He graduated with Honours in Mathematics and Physics in 1939 and obtained an M.A. in Physics in 1941. When World War II broke out, like many of his contemporaries, he joined the radar research effort at the National Research Council (NRC) in Ottawa. He worked on many aspects of antenna design and developed a K-band scanner. His flair for research was quickly recognized. The radar work brought him into contact with J.S. Foster, who was doing similar things at the Radiation Laboratory at the Massachusetts Institute of Technology (M.I.T.). Bob Bell was to recall amusingly that, on his first meeting with Foster, while looking at the working of the Foster Scanner on the roof of the Radiation Laboratory at M.I.T. and in response to a witty remark from Bell, Foster suddenly threw up his arms and emitted one of his famous laughs, almost knocking Bell off the edge of the parapet very nearly making that encounter their first and last. Fortunately that was, instead, the beginning of their long lasting friendship which helped bring Bell to McGill later.

When the war ended in 1945, Bell enrolled in the Ph.D. program in Foster's Radiation Laboratory at McGill and carried out his research at Chalk River under the supervision of Dr. Lloyd Elliot. He received his Ph.D. in 1948 for a piece of classic research: measurement of the deuteron binding energy. The subject of proton-neutron interaction was of immense interest at the time. He joined the staff at Chalk River upon his graduation. It was there he made the first observation of the Doppler effect on the nuclear transition. His instinctive flair for electronics and electronic instrumentation led him and Drs. R.L. Graham and H.E. Petch to the invention of the direct electronic timing technique, the so-called "fast-slow coincidence system", for nuclear transition life-time measurements in the nanosecond and subnanosecond time range. This invention and its subsequent exploitation made him a world expert on the subject.

The McGill cyclotron was fully commissioned in 1949 and the field of nuclear research at accelerator energies was wide open for exploitation. In 1952 it was arranged to have Bob Bell on loan to McGill so that he could take advantage of the research opportunities offered by the new facility. He joined the staff at McGill in 1956 as Associate Professor. By then he was well recognized, and was already elected Fellow of the American Physical Society (1954) and Fellow of the Royal Society of Canada (1955). He succeeded J.S. Foster to the Rutherford Chair in Physics and the Directorship of the Radiation Laboratory at McGill in 1960. Bob Bell's scientific career was crowned with the discovery (with student R. Barton) of a new form of radioactivity---the delayed proton, in 1963. He and his student, J.C. Hardy, subsequently developed this work into a powerful spectroscopic tool for the study of nuclear isotopic analog states. With his induction into the Royal Society (London) in 1965, the award of the Canadian Centennial Medal (1967) and the CAP Medal for Achievement in Physics (1968), he was rewarded for his work.

His meteoric rise in fame in the scientific world coincided with the tumultuous changes in society, particularly on campuses across North America. Many universities were looking for new leadership to navigate them through the turbulence. The Board of Governors of McGill found it in one of its own eminent scholars, when, on June 1, 1970, Bob Bell was appointed Principal and Vice-Chancellor. He came to the Principalship with impeccable scholarly credentials. He applied scientific logic to university administration with great success. During his nine-year tenure in the post, he restored harmony, trust and financial solvency to the campus. He redirected the energy often wasted on futile academic debates back to the discovery of new knowledge. It was fascinating to watch him using his sharp mind and quick wit to bring a convoluted academic debate down to earth. Many McGill colleagues still remember vividly how refreshing it was to listen to their Principal delivering his "state of the union" addresses in the format of plenary talks in scientific conferences. He was the last Principal of McGill to be appointed with unlimited term and voluntarily subjected himself to the "new rule" of five-year term which the Board of Governors had adopted at his urging. Upon his retirement from McGill in 1983, he took on the

Directorship of the Arts, Science and Technology Center in Vancouver for two years, laying the foundation for its eventual evolvement into an interesting institution called Science World. Unfortunately, he died at the age of 73, after a long and difficult illness.

Bob Bell was a modest man with an unassuming manner, and had a tendency to shun formality. He was generous, be it to praise another's accomplishment or to help a friend in need; he always had something good to say about his adversaries. He loved jazz music and shared an appreciation for English literature with his wife, Jeanne Atkinson, who was a Shakespeare Gold medalist graduate from McGill. He was fond of rhymes and word play, and wrote several humorous poems. He was a cultured man.

In addition to the honours and awards already mentioned above, he received a great many others. Just to give a sample of them: President of the Canadian Association of Physicists (1965-66); honorary degrees from ten major Canadian universities; Companion of the Order of Canada (1971); Queen's Silver Jubilee Medal (1978); President of the Royal Society of Canada (1978-81); Centennial Medal of the Royal Society of Canada (1982). He held membership in a great many prestigious organizations. His long list of honours, awards and appointments identifies a remarkable man.