

IN MEMORIAM

GEORGE MICHAEL VOLKOFF, 1914 - 2000



With the death of George Michael Volkoff in Vancouver, on April 24, 2000, Canada lost one of its eminent physicists and the Canadian Association of Physicists lost one of its early officers who was very active in the formative years of the Association. He died after being hospitalized for almost four years following a major stroke in the summer of 1996. George gained prominence as a theoretical physicist - especially for his

pioneering work with Oppenheimer on neutron stars - and for his work on CANDU during the war, and then he played an important role at the University of British Columbia for many decades. In mid-century he was the blazing supernova illuminating the firmament of Canadian physics. During his active career as a Canadian physicist, from about 1940 to 1980, George was well known to most Canadian physicists and had a network of friends and admirers around the globe.

George Volkoff was born in Moscow on February 23, 1914. In 1924 his father, a Russian engineer, brought his family to Canada where he thought George might have a more promising future. However, the father could not find appropriate work in Vancouver and therefore moved the family to Harbin, Manchuria, in 1927, where he taught at a technical school in a large enclave of Russian emigres. George was a brilliant student in the secondary school in Harbin where he also made many life-long friends who prospered in global careers like his. This Harbin "mafia" was very important to George throughout his life.

Returning to Vancouver to enter UBC, George was persuaded by Gordon Shrum to study physics rather than engineering. Upon graduation in 1934 he had one of the best student records ever attained at UBC. In the meantime, rather poignantly, he lost the support of his family. His mother died in Harbin soon after the family moved there. In 1936 the father returned to Russia - having been assured by relatives that things were improving there - and was immediately caught up in the Stalinist purges. The father survived for only a few years in the arctic camps. Alone in North America, it did not help George emotionally that many of his associates continued to have rosy views of the Soviet Union. George was Russian culturally, proudly Canadian by choice and international in outlook.

He was fortunate, in 1936, to become a graduate student in Berkeley of J. Robert Oppenheimer. Although George published a number of important papers in his career his very first paper with Oppenheimer, on neutron stars, was also his most famous. Based on his thesis, this 1939 work calculated the collapse of a star, during a supernova explosion, into a neutron core. This work was ahead of its time. It came only a decade after the advent of quantum mechanics and only a few years after the discovery of the neutron. Until the discovery of pulsars, three decades later, neutron stars were an interesting

scientific novelty, like the black holes pioneered simultaneously by Oppenheimer and Snyder. Unfortunately both Oppenheimer and Snyder died before their early work could be recognized, but Volkoff became an officer of the Order of Canada, in 1994, in significant measure for his early work on neutron stars. It pays to live long if you are ahead of your time!

After working briefly with Eugene Wigner at Princeton on tensor forces, George began his long career at UBC in 1940. In the same year he began a happy marriage of almost 60 years to Olga Okulitch who was also a Russian emigre and also an excellent scientist. She and three wonderful daughters (along with one spouse and three grandsons) survive George.

George had barely settled into UBC before he was summoned, in 1943, to work on the wartime Canadian heavy-water reactor program at the Montreal Laboratory. The atmosphere of that laboratory and Volkoff's involvement are vividly described in Phillip Wallace's recent article in PHYSICS IN CANADA (PIC 56, 123-134, 2000). For his atomic energy work Volkoff was awarded the M.B.E. in 1946 and also an honorary degree from UBC in 1945. At age 31, Volkoff was probably the youngest recipient of an honorary degree at any Canadian university.

In the years after WWII graduate education was initiated at many Canadian universities. One of Volkoff's students (Thomas L. Collins, who had a prominent career in accelerator physics at Fermilab) received the very first Ph. D. in any subject from the University of British Columbia. Another early Ph. D. student of Volkoff's was Howard Petch who had a distinguished career at McMaster and Waterloo universities before lengthy service as the President of the University of Victoria. Petch also served as CAP president (1967-68). Although he was a theorist, Volkoff initiated an NMR experimental research program at UBC which eventually was taken over with great distinction by Myer Bloom. Volkoff very generously nurtured many physicists. After Gordon Shrum's retirement Volkoff became head of the UBC physics department (1961-70) and then dean of science (1970-79) until his retirement.

Part of Volkoff's celebrity arose from his proficiency in his native language, Russian. In the early years of the cold war He was greatly sought after at international conferences to provide simultaneous translation of talks given by Russian scientists. Also, for many decades, he translated Russian articles in physics into English. He was an important bridge between the scientific communities of east and west.

Volkoff was involved in almost every area of national service. He served as editor of the Canadian Journal of Physics (1950-56) and as president of the CAP (1962-63) as well as on innumerable advisory boards and committees. In particular he chaired several CAP Committees concerned with the development of high energy physics in Canada. He was a very important early supporter of the TRIUMF project.

George emanated warm friendship and had a passion for music, mountains, literature and culture generally. He will be greatly missed by his host of friends across Canada and his many friends and associates around the globe.

E. Vogt, TRIUMF