



Alan C. Burton, PhD

One of the first physicists to become a biophysicist at a time when biophysics was not in vogue, Dr. Burton is perhaps appreciated most for his uncanny ability to crystallize physical concepts in medicine and make learning relevant, exciting and most of all, fun. Much of his teaching occurred at “coffee time” twice a day; he encouraged his students to keep a notebook of “Nobel Prizes Pending”; and his books included intriguing poems such as “Ode to a red cell”. Considered a founding father of modern biophysics and a pioneer in interdisciplinary health research, Dr. Burton was a brilliant scientist and a superb raconteur who had a profound and lasting effect on those he encountered.

Dr. Alan Burton began his career as a high school physics teacher before immigrating to Canada at the age of 23 and becoming a graduate student in physics at the University of Toronto. Dr. Burton’s PhD work, including the heating of electrolytes by microwaves (then of great medical interest), marked his entry into the world of biology.

He pursued postdoctoral studies at the University of Rochester, NY (1932-1934) and the University of Pennsylvania (1934-1939), and returned to Canada after the outbreak of World War II. Refusing to let the disruptive years of war deprive him of his dreams, nor diminish his scientific spirit, he undertook military research related to the design of protective clothing for military personnel – work that formed the underpinning of the discipline of environmental physiology.

In 1945, Dr. Burton was recruited to the University of Western Ontario where he founded and led from 1948-1970 the first Department of Biophysics in a Canadian medical school. He repeatedly turned down numerous positions in the United States, and “his department” is now one of Canada’s largest biophysics departments, known for its innovative graduate program. In his later years, Dr. Burton turned his energies towards the problem of cancer, including protection against cancer by altitude, once again showing how simple physics can help to more clearly understand medical problems.

Awarded the Member of the Order of the British Empire for his contributions during the war, Dr. Burton served as President of the American Physiological Society (1956), Biophysical Society (1966) and the Canadian Physiological Society (1959). He was honoured with the Gairdner Foundation International Award for Cardiovascular Research (1961) and has received two honorary degrees. The Schulich School of Medicine & Dentistry at Western named their CFI-funded biophysics laboratory the Alan C. Burton Laboratory for Vascular Research in his honour.

